



**United States
Department of the Interior
Bureau of Land Management
Eugene District**

Lane Council of Governments

**City of Eugene
Eugene, Oregon**

RECREATION, ACCESS, and ENVIRONMENTAL EDUCATION PLAN

WEST EUGENE WETLANDS

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**West Eugene Wetlands
Recreation, Access and Environmental Education Plan**

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WEST EUGENE WETLANDS RECREATION, ACCESS, AND ENVIRONMENTAL EDUCATION PLAN

Part I. INTRODUCTION

A. Background

Wetlands were first identified in the western portion of the city of Eugene in spring 1987 in the midst of the City's largest industrial area. In recovering from the economic recession of the early 1980's, the City and local utilities had expended over \$12 million to extend roads, water and sewer lines and other utilities to service future industrial and commercial growth.

When wetlands were mapped in the region, the City decided to prepare a wetland plan to respond. From 1989 to 1992, more detailed inventories and assessment of wetland values were conducted. A series of public workshops, tours, and individual communications with owners and interested parties were conducted. State and Federal agencies participated in Plan development and review through a technical advisory committee. After work sessions and public hearings were held by the two planning commissions, Eugene City Council and Lane County Board of Commissioners, the Plan was adopted in August 1992. The Plan contains goals, policies, recommended actions and a Plan map, which designated 1,317 acres of wetlands to be protected, restored, or developed.

Following local adoption, the Plan was approved by the Oregon Land Conservation and Development Department as an amendment to the Metropolitan Area General Plan. In 1993, the State Director of BLM adopted the Plan to guide BLM's land acquisition program to buy wetland with Land & Water Conservation Funds and other sources as approved by Congress. In 1994, the U.S. Environmental Protection Agency, U.S. Army Corps of Engineers (Corps), and Oregon Division of State Lands (DSL) approved the Plan. The DSL action recognized the Wetland Plan as Oregon's first "wetland conservation plan", a special status designation under Oregon wetland statutes and rules.

Between 1991 and 2000, Congress appropriated \$10.6 million to BLM to purchase lands in west Eugene. The Nature Conservancy, the City of Eugene, the Oregon Department of Transportation, and Lane County already owned some land and purchased additional property in west Eugene. By 2000, over 2,200 acres in the broad study area were owned, providing another level of protection for wetlands and adjacent uplands.

As time progressed, the City formed agreements to operate a wetland mitigation bank and began a process of restoring and enhancing wetland habitats. Two major stream restoration projects were implemented on portions of Amazon Creek. The Fern Ridge bicycle path was constructed westward along Amazon Creek another 1.8 miles from Bailey Hill Road. Wood chip walking trails, wildlife viewing platforms and a photo hide were constructed. Where these projects impacted land owned by BLM, individual environmental assessments were completed to allow the recreational improvements.

In 1999, BLM organized the formation of an environmental education committee, which began investigating a more formal outdoor education program and planning for an interim and permanent education center. The education program also included looking at locations, facilities and information display locations where students and adults could experience the wetlands and learn more about them. These educational interests dovetailed perfectly with the desire to provide other access and recreational facilities in a way that provided access to the wetland resource without damaging the most sensitive areas or unduly disturbing rich wildlife resources.

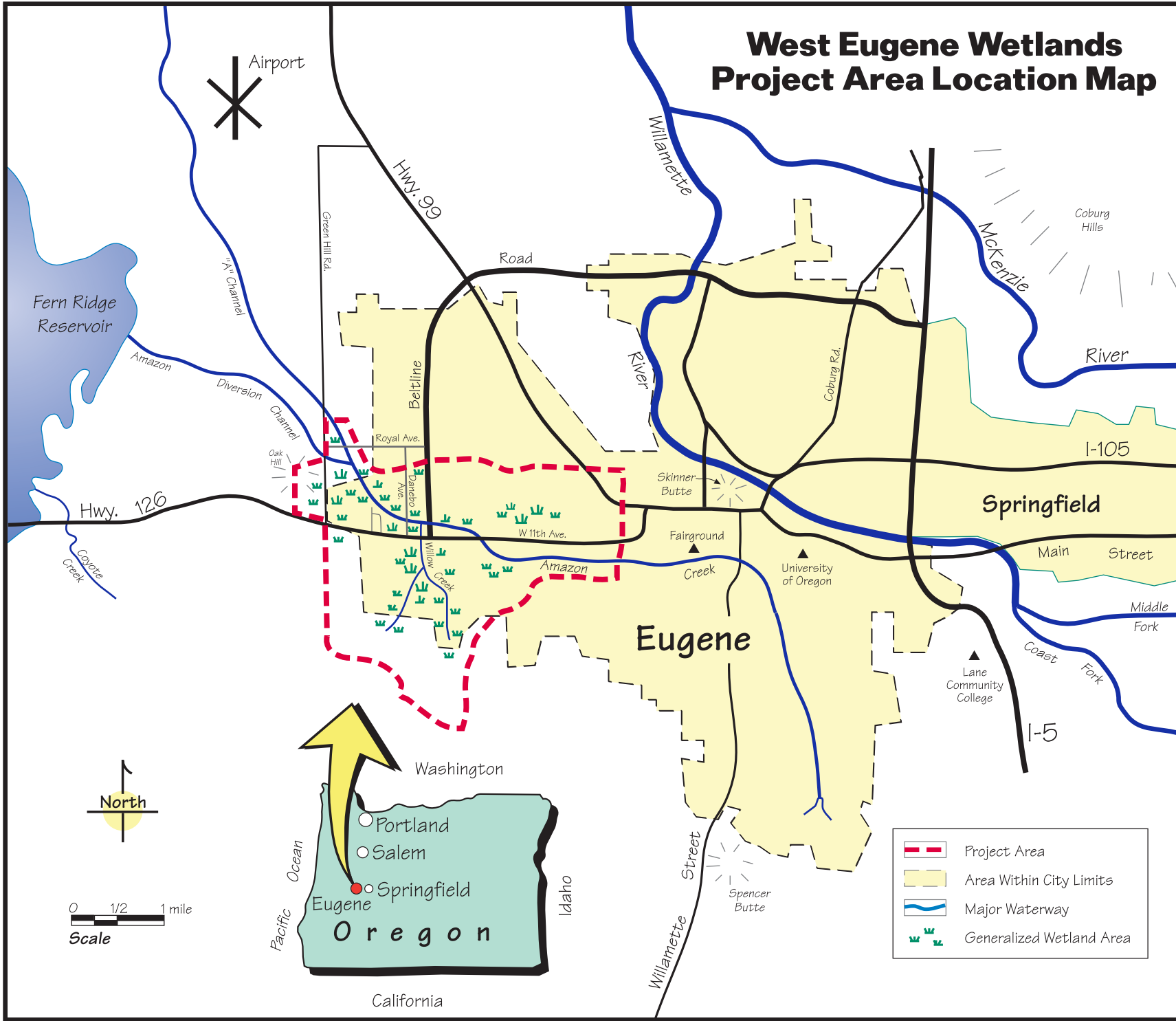
By 1999, it became evident, as more recreational facilities were being constructed and planned in a piecemeal fashion, and as the land acquisition program matured, that it was timely and necessary to undertake a more comprehensive recreational facilities, public access and environmental education planning program. That plan should meet local needs and fulfill BLM's federal environmental and planning regulations.

B. Location and Setting

This plan covers a portion of the Amazon Creek drainage basin on the western side of the City of Eugene, Oregon. The plan area is generally bounded by Royal Avenue on the north, Murray Hill on the south, Oak Hill (west of Greenhill Road) on the west and Garfield Street on the east. While this area encompasses over 8,000 acres overall, this plan applies only to those lands either owned or under the jurisdiction of signatory partners (approximately 2,200 acres), including the City of Eugene, the Bureau of Land Management, The Nature Conservancy and Lane County.

Most of the plan area is located within the City of Eugene's Urban Growth Boundary. Existing land uses within the plan area include low density residential and agricultural in the northern and western areas, changing to industrial, higher density residential and commercial uses toward the east and south.

West Eugene Wetlands Project Area Location Map



C. Purpose

As previously mentioned, over the preceding decade the publicly owned part of the wetlands has grown substantially as have some partnership land holdings within the wetlands general area. In response partly to public demand for access to the wetlands for wildlife and botanical viewing, and partly to stop the occurrence of incompatible uses such as unauthorized camping and surface disturbing recreational activities, piecemeal recreational development and other land uses have occurred. There is a need to allocate the uses of both public and partnership lands in a logical and sustainable manner to avoid unintended redundancies in their management and to avoid inadvertent damage to the wetlands ability to function and meet the original goals of the West Eugene Wetlands Plan of 1992.

The purpose of this plan is to provide an integrated, consistent management approach for both public and partnership land holdings to achieve wetland and prairie restoration goals, while providing an avenue for both increased outdoor education and recreation needs. The major goals and objectives for this plan have been defined in the West Eugene Wetlands Plan of 1992.

D. Method of Plan Preparation

This plan is issue driven, while tiered to the existing body of planning work that has already been completed for the wetlands. The major goals and objectives have been defined through the West Eugene Wetlands Plan of 1992 and others. Issues and concerns addressed in this plan originate from the managing agencies, their partners and cooperators, and from the public. Publicly derived issues and concerns were gathered during a scoping period that included a direct mailing to all the listed tax lot owners of record surrounding the wetlands (see Appendix D.). Two public meetings were held and issues or concerns were also collected through written comments and telephoned comments.

The issues and concerns were then categorized and consolidated into three major issues, which were then used as the framework for designing the management program. This management program is designed to encompass not only land use allocations but also management policies and project implementation. The management program thus described becomes the 'proposed action' for an environmental assessment, which in compliance with the National Environmental Policy Act, assesses the impacts of the plan on the human environment (see Appendix B).

Following public review, comments are evaluated and necessary changes are made to the plan and environmental assessment. A Record of Decision is then issued by the Authorized Officer. This decision record, which specifies the management program that BLM will be committed to implementing, may be protested or appealed. Partnering agencies and organizations may also adopt the plan.

E. Existing Plans

Many of the planned, future facilities in the west Eugene Wetland Plan study area are contained in existing plans which have been approved in the past by the Eugene City Council and Lane County Board of Commissioners after extensive public review and hearings. As such, these plans are legal documents, which are part of the comprehensive planning programs of those governments under the Oregon Land Use Planning Act of 1973, as administered by the Oregon Land Conservation and Development Commission (LCDC).

Among those adopted plans affecting west Eugene are:

- Area General Plan, 1987, as amended. West Eugene Wetland Plan, 1992
- Metropolitan Eugene Parks and Recreation Plan, 1989
- Eugene-Springfield Metropolitan Area Transportation Plan, Bicycle Element (TransPlan), 1986
- Willow Creek Special Area Study (an area refinement plan), 1982

Some other facilities have been planned through Mitigation Improvement Plans (MIPs) for individual restoration sites under public ownership. When those MIPs affect lands under the administration of the U.S. Department of Interior, Bureau of Land Management (BLM), they are accompanied by an environmental assessment (EA), which allows those improvements. Those EAs have all gone through a public notice and approval process.

MIPs and/or EAs which show existing or planned public improvements include:

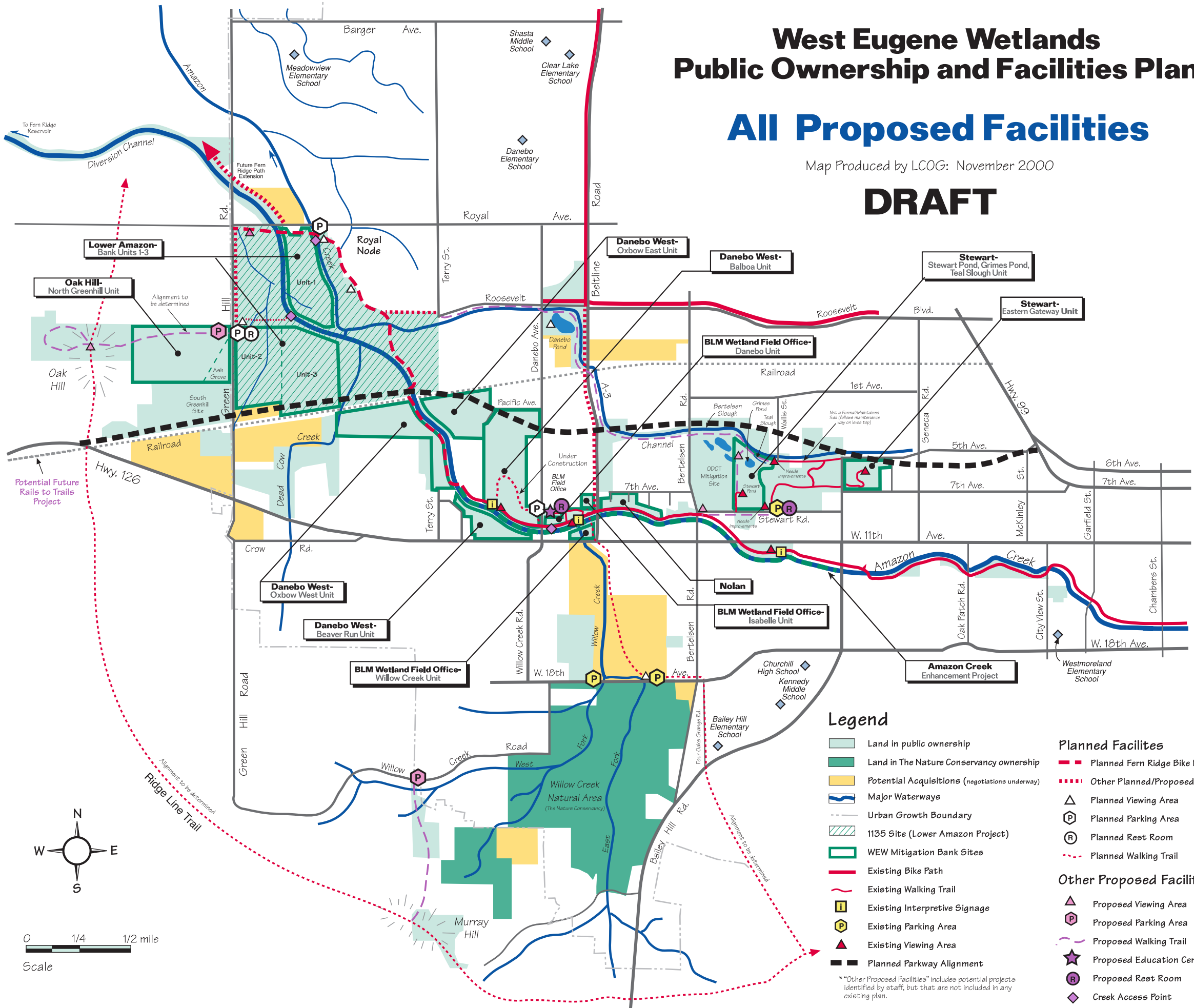
- Stewart-Bertelson Management Unit, 1995
- Danebo West, Balboa Unit, 1998 Lower Amazon, 1999
- BLM West Eugene Office Site, 1997
- Eastern Gateway, 1993
- Amazon Creek Enhancement Project, EA No. OR090-EA-96-31, 1996

West Eugene Wetlands Public Ownership and Facilities Plan

All Proposed Facilities

Map Produced by LCOG: November 2000

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Part II. Guidelines for the Planning Effort

A. Planning Assumptions

The Plan was written based on the following planning assumptions:

1. The planning process must be conducted within the parameters or bounds which define both the range of opportunities as well as the constraints which must be considered in the plan. These parameters originate primarily from two sources. The first source is the body of existing federal legislation which is applicable to BLM's mission within the planning area. These laws include, but may not be limited to the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 et seq.); the Oregon and California Sustained Yield Act of 1937 (43 U.S.C. 1181 et seq.); the Land and Water Conservation Fund Act (16 U.S.C. 460 1-6a); the National Trails System Act (16 U.S.C. 1241 et seq); Executive Order 11644 (Use of off-road vehicles on public lands), 37 FR 2877, 3 CFR Part 74, 332, as amended by E.O. 11989 42 FR 26959 (May 25, 1977); the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.); the Wild and Scenic Rivers Act of 1968 (16 U.S.C. 1281-1287).
2. The plan shall be consistent with the Eugene District Resource Management Plan (RMP) of 1995, and subsequent BLM planning documents.

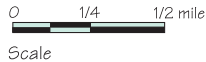
B. Planning Objectives

The planning objectives for the West Eugene Wetlands include:

1. Recreation management shall be provided within the WEW to provide enhanced recreation opportunities for public land visitors, protect natural and cultural resources from excessive or improper use, provide for improved visitor safety and protection of property, and reduce conflicts between visitors, authorized public land users, and neighboring residents.
2. Recreation management shall, to the extent possible and consistent with law, regulations and BLM policies, aid in enhancing and stabilizing restored wetlands and native plant communities.
3. Provide a framework which allows all interested visitors, agencies and neighboring area residents to actively contribute toward and become involved in the management of the public land within the WEW.
4. Determine levels of visitor services, staffing, facilities, cooperating relationships, etc, based upon management needs.

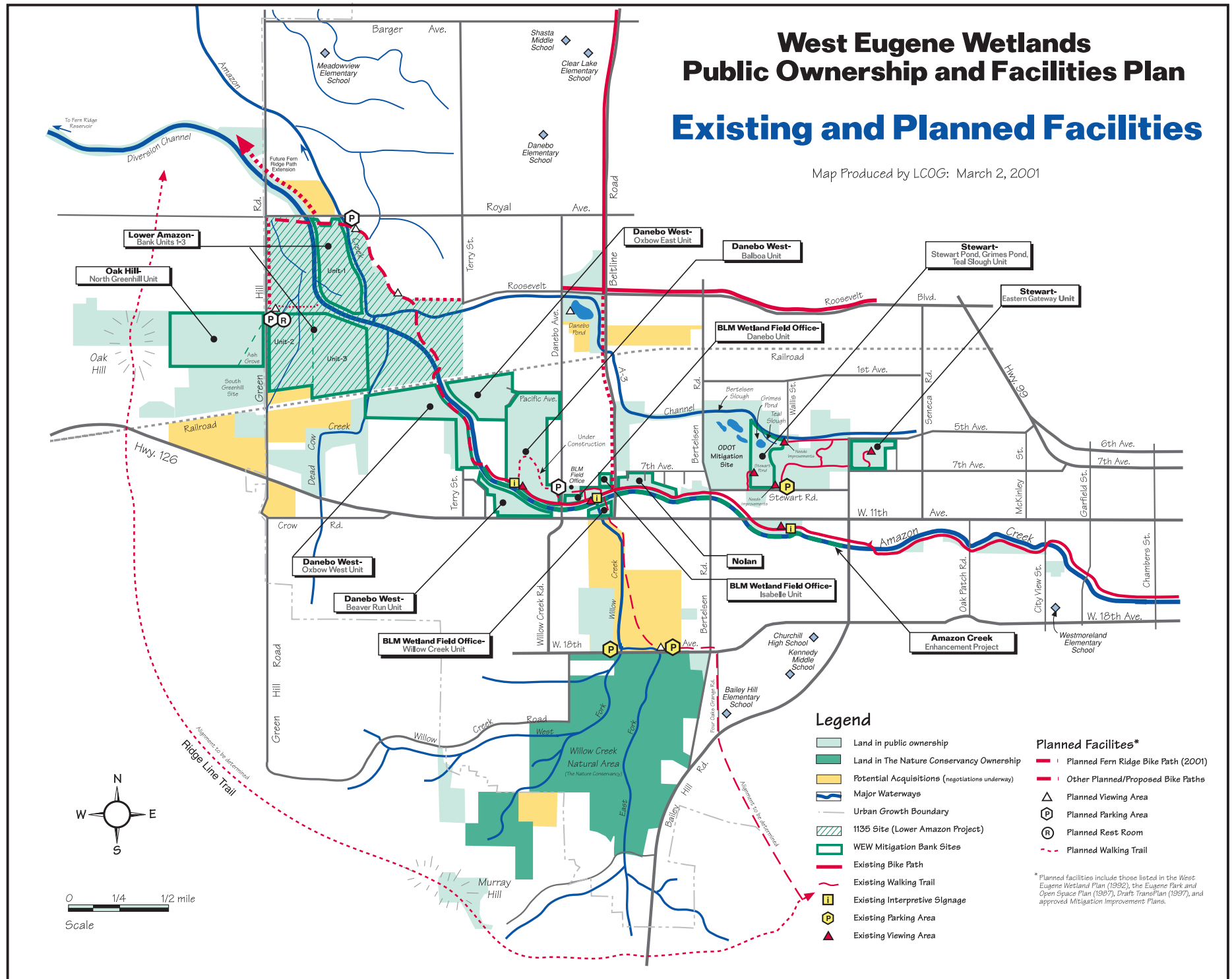
5. Insure that all planned BLM management actions have the benefit of full public participation, from initial formulation through implementation.
6. Define the types and levels of visitor uses of public lands and related waters.
7. Provide natural or restored habitats and the support programs and facilities to use the Wetlands as a focal point for environmental education.

Map Produced by LCOG: March 2001



West Eugene Wetlands Public Ownership and Facilities Plan Existing and Planned Facilities

Map Produced by LCOG: March 2, 2001



Part III. Issues

A. Major Issue Identification

Public comments collected during the scoping process (see Appendix A) included statements offered during the two public meetings as well as telephoned and written comments.

The planning team used the constraints listed in Part II-A above to filter the individual issues or concerns identified for this planning process. Only 20 concerns were found to be completely beyond the scope or authority of this planning effort. They are grouped by major issue category as follows:

1. Recreation Opportunities -

- Good bird watching and photography opportunities
- Provide walking and bicycle access to wetlands places.
- Construct equestrian trails properly so they can be used for horseback riding without damaging the wetlands.
- Wetlands area is important for contemplation and self renewal.
- Build a trail between Stewart Pond and the ODOT mitigation site.
- A trail should run from Stewart Road to the A-3 Channel. A hedge row should be planted adjacent to this trail to prevent disturbance of wildlife in Grimes Pond.
- Support rails to trails.
- Would like to follow Amazon Creek (diversion) all the way to Fern Ridge Lake.
- Put an observation tower near the ponds on the ODOT mitigation site to provide views of the birds using these ponds and Grimes Pond.
- Support the proposed trail from Willow Creek Road to the Ridgeline Trail and the associated parking area. Trail would be good for upland birding.
- Designate a horse trail along the Diversion Channel between Greenhill Road and Fern Ridge Reservoir.
- Change trail system at Stewart Pond to create a loop, a shorter loop that allows splitting up large groups, especially large groups of children-students.
- Involve horse people and have access to parts of the wetlands.
- Support bike paths - push westward - supports rails to trails.
- The Fern Ridge Bike Path should follow the channel.
- Build a 10' tower on BLM land at Stewart Pond to look out into ODOT (Martinson) property.
- Provide drinking water stops along the bike path.
- Benches under shady trees.
- What is the maintenance plan and is funding available?
- Eliminate firearms use and hunting within the wetlands.

2. Public Access Management -

- Transients sites - clean-up vandalism - what's the plan for patrol, enforcement etc.
- Continue the hedge row to interfere with traffic between Stewart and Grimes Pond.
- Intimidation from occupants/uses at transient sites. Consider use of seasonal restrictions (to access) during 'critical' times.
- Concern about horse/bike use. Do we foresee horses in the wetlands?
- Hunting - will you differentiate between shotgun and rifle areas?
- Concern about parking on Greenhill for hunting - immediately vs. outyear.
- Concerns of trespass off public property onto private property.
- Law enforcement outside city limits is limited (OSP & Lane County Sheriff) so parking may have a vandalism/theft problem.
- Hire a security firm to lock/unlock parking area gates.
- How to report transient camps - who to contact? Who has jurisdiction? City lands, BLM, ODOT, TNC.
- Moving transient camps just encourages them to relocate to other problem areas.
- Limit bullet types: only allow small shot from shotguns.
- Limit the use of off-road motorcycles/vehicles move onto private land.
- Concern about the movement (relocation) of transients from one land owner to another - the multiple jurisdictions make it a difficult situation.
- Address the use of off-road vehicles.
- Where will there be acquisitions outside the WEW plan boundary?
- Purchase the property north of Royal Avenue that lies between the A channel and the Diversion Channel.
- Maintain wildlife connectivity between the vast resource area south of Royal to Greenhill Road.
- Avoid asphalt at all costs.
- Stop developing the wetlands - no more construction of any kind.

3. Educational Opportunities/Facilities -

- Where is the education center going to be placed/sited?
- Restroom facilities need to be part of plan w/ increased users - esp. school groups.
- Hear more about the things that are happening in the West Eugene Wetlands.
- Bus stops/bike routes - share information to keep cars to a minimum w/publics.
- Outdoor classrooms - facilities, signage to encourage discussion.
- Interested in events concerning wetlands.
- Glad to see the education center going in.
- Supports environmental education in the community - anything we can do. Involve the public in noxious weed control planning.
- Preserve wildlife.
- Needs of wildlife - place platforms for viewing in less critical wildlife habitat sites.
- Noxious (invasive species) weed plan for control - spread; from dogs, people, from increased access.

- Concern about herbicides getting into the water supply - and possible effects to people.
- How will the access to varying areas of sensitivity be controlled, given that they may change from year to year?
- NCAP offer to make library available for research.

4. Uncategorized Comments -

- Happy about what's happening.
- What are the timelines?
- Types of recreation?
- Concern that IPM for weed management provides false representation that herbicides are not used.
- Example of working nature - keep all the parts (Aldo Leopold) for children/teachers.
- Happy with current management efforts.
- Recognize horse use in past.
- Resting area for winter waterfowl.
- Nesting success has declined because of increased access. Danebo to Greenhill.
- Perception that access has been pulled back from the berm (on the COE restoration site).
- Bald eagle habitat.
- Safety considerations.
- Work to get "transients" to work on weed pulling - pay them- concern that would increase public staffing.
- Look for ways for Corps/BLM to improve Fern Ridge Reservoir. The shoreline is eroding in places. Use bio-engineering approaches.
- Any further expenditures of money by BLM for the West Eugene Wetlands Plan should be contingent upon the City living up to the 1992 plan requirement to either purchase the natural resource corridor or continue restrictive agricultural zoning as it existed when the plan was adopted.
- Involve youth in restoration/job training/education.
- Wastewater/stormwater purification - Amazon canal transports pollutants from the city - would like to see inline treatment systems: 1. Prior to entering wetlands; 2.in the wetlands.
- Need agency coordination to clean up Fern Ridge Lake - clean water before entering Fern Ridge.
- EWEB - transmission lines (water/electric) - looking for potential conflicts and opportunities.
- EWEB - supports sustainability and community education.

There were several management concerns expressed at the public meetings which are not normally addressed in a recreation, access and environmental education plan, but nonetheless are important to the local communities who have close ties to the WEW.

IPM - Concern that the IPM for weed management creates the false representation that herbicides are not used.

FERN RIDGE LAKE SHORELINE - Concern that the shoreline of Fern Ridge Lake is eroding, and the potential to introduce bio-engineering techniques to reduce shoreline erosion.

STORMWATER TREATMENT - Concern that stormwater runoff from the City of Eugene be treated prior to entering the wetlands.

LOCAL EMPLOYMENT - How can the locally available work force and volunteers be utilized to help develop and manage the WEW?

Discussion: Strong interest has been expressed by local area citizens in becoming part of the work force needed to implement the Plan. Interests ranged from working as docents or volunteer interpreter-guides to laborers, equipment operators and security staff. BLM will make special efforts to advertise employment opportunities and availability of contracts for bid locally.

REVENUES - What revenue generating actions should be pursued to help defray the costs of managing the WEW?

Discussion: Fees collected by the BLM for certain types of uses can be re-applied in the area where the fees were collected. Other types of fees go to other agencies or become general revenues of the United States. Concern was expressed that fees generated within the WEW be used for its management. Federal laws and agency guidelines dictate how recreation user fees will be deposited. There are however, methods of retaining fees for interpretive materials and services provided that they can be retained through the use of Cooperative Associations.

C. MAJOR ISSUES

Issue 1. What recreation opportunities will be provided in the West Eugene Wetlands?

Achieving the management objectives and protection of the recreational values and resource values identified in the law and policies can often create conflict. As with other fragile ecosystems, excessive use can cause ecosystem changes, disruption of wildlife, and reduction in visitor expectations.

This visitor use may also create conflicts with existing land use management programs. If left uncontrolled, the increased visitor use to the WEW will ultimately destroy the values most sought by the visitors and area residents alike.

What visitor services shall be provided within the WEW to enhance prescribed recreation opportunities, protect natural and cultural resources from excessive or improper visitor use, provide for improved visitor safety and protection of property, and reduce conflicts between visitors as well as conflicts between visitors and neighboring private landowners?

Considerations:

- a. POTABLE WATER - Where and how should potable water be provided?

Discussion: Safe drinking water sources have become a matter of concern in most areas due to the spread of both chemical and biological contaminants.

- b. EMERGENCY SERVICES - What additional public safety and emergency services should be provided by BLM?

Discussion: Due to the proprietary nature of BLM's jurisdiction, many other local, State and Federal agencies have some form of jurisdiction or responsibility for resources or events within the WEW. Coordination of all concerned agency actions within the WEW could be assured if formal cooperating relationships are established.

- c. INTERAGENCY COORDINATION - What agreements, contracts or other instruments are needed to effectively coordinate multi-agency roles, responsibilities and activities?

Discussion: With the multiple jurisdictions and concerns extent within the West Eugene Wetlands partnerships, there are numerous opportunities for cooperation as well as conflict.

- d. MAINTENANCE - To what levels should roads, trails, viewing sites and other facilities be maintained?

Discussion: A major management cost is the continuing maintenance of improvements. The level of maintenance prescribed for the area's roads, trails and other facilities will determine a large part of the area's annual operating budget requirement.

- e. SANITATION - What sanitation facilities are needed and where should they be located?

Discussion: The majority of visits to the West Eugene Wetlands are expected to be of several hours duration. Some parts of the wetlands will attract concentrated use due to either group activities or because they are points for

congregation or embarkation. Such sites will have a persistent demand for clean, attractive and durable sanitary facilities capable of accommodating the anticipated levels of use.

- f. FIRE - What measures (beyond normal Or. Dept. of Forestry requirements) are needed to protect visitors, the WEW, and surrounding areas from the effects of wildfire?

Discussion: A great deal of concern was expressed about the danger of wildfire, which many neighboring landowners felt might be increased due to the increased visitation, especially to new developments.

- g. COMMERCIAL USES - What types and levels of commercial uses should be allowed under BLM permit?

Discussion: Commercial uses which could be dependent upon use of the WEW public lands and related waters include, but are not limited to, such activities as bicycle riding, bird watching, nature study, and photography.

- h. SECURITY - How should security be provided for WEW visitors' persons and property?

Discussion: Remote parking areas, nature observation sites, and trails are sometimes the sites for personal and property crimes, including automobile break-ins, assault or robbery. The Wetlands are accessible from many points and the importance of restoring natural habitats may create opportunistic locations for some kinds of criminal activity.

Issue 2. What level of public access will be accommodated in the West Eugene Wetlands?

- a. TRAILS - What types of trails are needed in the WEW?

Discussion: In many places competition for use of trails between different types of trail users (horse, bicycle, pedestrian) has resulted in conflict as well as loss of recreational experience opportunities. Since there are only a finite number of trail location possibilities, it will be necessary to determine which types of trails are needed, specify trail use, and restrict incompatible uses.

- b. EQUESTRIAN USES/FACILITIES - What equestrian services and facilities should be provided for and if provided, where should they be located?

Discussion: While the area has potential for equestrian use, many of the specialized needs of equestrian users are lacking and conflicts with non-

equestrian users could result. Also, there is concern that horse droppings may introduce undesirable, exotic and/or noxious weeds into the wetlands.

- c. TURNOUTS - Should bike trail turnouts which are useable for picnicking, scenic vistas, etc., be provided?

Discussion: A need was identified for undeveloped sites which would be accessible by motor vehicle and could be used by visitors who did not wish to utilize the developed facilities, but rather preferred the un-structured, self-sufficient, vehicle based recreation opportunity.

- d. HABITAT - What measures should be implemented to protect wildlife and flora habitats?

Discussion: The WEW contains a variety of sensitive habitats. These areas can be sensitive to visitor influences. The plan will explore ways of reducing these impacts.

- e. VISITOR USE CAPACITIES - What user capacities should be established for facilities and areas to maintain a quality visitor experience compatible with the area ecology.

Discussion: Many concerns were related to problems associated with negative environmental impacts of overuse and loss of natural values or recreation experience opportunities due to excessive numbers of visitors or the lack of controls on certain types of use.

- f. TRESPASS - How can trespass by visitors on private property, and resultant conflicts, be controlled?

Discussion: Trespass or unpermitted use of private property within or adjoining the WEW has created problems for many neighboring residents and landowners. Usually such trespass is not deliberate, but rather the result of inadequate signing or mis-informed visitors. Some trespass is, however, the result of deliberate use of wetlands properties for access onto private adjoining property.

Issue 3. What educational opportunities will be available and/or provided in the West Eugene Wetlands?

- a. NEW DEVELOPMENTS - What new educational facilities are needed and where should they be located?

Discussion: Many concerns were expressed over the lack or inadequacy of facilities needed to accommodate both individual visitors and groups such as school classes. There was also concern over the problems associated with incompatible uses occurring on the same facilities and location of the facilities in ecologically sensitive areas.

- b. SIGNS - What portal, guide, interpretive and regulatory signs are needed and where should they be located?

Discussion: The lack of effective signing limits the ability of the area's visitors to orient themselves, understand the resources and management activities, comply with use restrictions, fully enjoy use opportunities, and avoid hazards or keep from creating problems for themselves, other visitors, and neighboring area residents and land users.

- c. INFORMATION & EDUCATION - What measures are needed to provide visitors with more effective orientation concerning the WEW's resources, opportunities, limitations and regulations?

Discussion: While signing can provide some essential information, other media are more appropriate for lengthy or complicated informational and educational efforts. Such media might include brochures, books, video-tapes, displays, or personal contacts with area staff and volunteers.

- d. HISTORICAL/CULTURAL - How can the area's historic and prehistoric resources be interpreted for and protected from the visiting public?

Discussion: Public interest in the wetland's history and prehistory is anticipated and should be accommodated, however without adequate protection some historic or prehistoric resources might be damaged or lost.

- e. ENVIRONMENTAL EDUCATION - What remote and on-site systems and facilities are needed to support the environmental education programs such as the Northwest Youth Corps and the Rachel Carson Center?

Discussion: There is an existing need and ongoing use of the wetlands by programs that could be substantially enhanced with improved accommodation for teaching, research and course preparation. While the general public would have opportunities for independent learning experiences, 'captive' audiences such as school programs will need basic services such as shelter, toilets, etc. as well as learning materials.

D. Issues Eliminated from Further Study

Inherent to the major issues there were issues and concerns that the planning team evaluated but did not pursue further within this plan due to their readily apparent incompatibility with the fundamental goals of the West Eugene Wetlands. For example, the team recognized that there is a tradition of equestrian use along the Amazon canal service road. There is also compelling evidence that exotic weed species have been introduced into many areas via horses, and that there would be a higher likelihood of failure in native habitat restoration efforts if horses continued to travel through the restored parts of the wetlands. The team therefore determined that horses would need to be excluded from the overland use in the wetlands. With regard to the Amazon/Fern Ridge Bike Path, the problem of horse droppings interfering with the designed uses of the path or providing the vector for introduction of exotic weed species, did not appear to be readily resolvable if horse use were to continue, hence the team felt that horses would need to be excluded.

The diversion channel maintenance road, however, to the north of Royal Avenue, does not presently have the potential to impact habitat restoration projects, and is also an attractive equestrian use opportunity. (Action 4.14)

Another example involves the potential siting of the educational center. A separate committee was formed to evaluate a number of different potential education center sites. Sites such as the crest area of Oak Hill and the Willow Creek area were considered, weighed and eventually rejected. The selected site as shown in this document is based on considerable investigation and evaluation that is not shown within this document.

Additionally, there are public land properties that were purchased for wetlands management purposes using the Land and Water Conservation Fund Act appropriations near Fir Butte, Fern Ridge Lake at the west end of Royal Avenue and also to the north of the lake along the Long Tom River. This plan does not address management of these parcels because they are isolated from the core wetlands area covered under this plan and there is little need for inter-agency coordination or cooperative management for these parcels at this time.

Part IV. The Management Program

A. Management Theme

The West Eugene Wetlands (WEW) will be managed to protect and enhance its natural values while providing opportunities for visitors to experience them. Recreation experience opportunities available to the visitor will cover a broad spectrum, ranging from the unconfined semi-primitive settings where visitors must be self-reliant and leave

no lasting imprint upon the land, to developed settings and facilities where the visitor's comfort, health, safety and informational needs or educational interests are provided for in deliberately modified or improved settings. The WEW will be managed to protect some semi-primitive recreation opportunities and to insure that these areas are not impaired by either direct BLM management activity, or the actions of others.

The visitor management philosophy will rely on both off-site management actions as well as on-site personnel plus physical improvements to harden heavily used sites to protect resources from damage. The use of interpretive and educational visitor contacts and materials will be the primary management tools. Design of structures and recreation facilities will consider the existing ecological values, local design themes and be largely rustic in appearance. The development of recreation facilities will be the minimum required to manage the visitors in concert with the ecological capacities of the ecosystems.

B. Area Specific Management Objectives and Design Parameters

The management objectives listed below are intended to guide the administration of visitation and recreation facility development in WEW. A total of four management categories have been developed and are reflected on Map 4. Management area designations were mapped based on known rare plant populations, overall habitat patch sizes, know habitat values, and the locations of existing and planned facilities.

In the event that the West Eugene Wetland Plan is amended in the future to allow for new or planned roadways or other projects, the management areas Map would be refined accordingly.

In the event of new land acquisitions, a management area designation consistent with the purposes of the acquisition would be applied. In cases where there is a connecting management area, the newly acquired parcel would usually be assigned a management area designation consistent with the adjoining parcel's existing assigned management designation.

Area Specific Management Objectives and Design Parameters

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In the event that the West Eugene Wetland Plan is amended in the future to allow for new or planned roadways or other projects, the management areas Map would be refined accordingly.

Management Area 1 - Protected Habitats

This area will be managed to maximize the protection of plant and wildlife habitat and be essentially free from human impacts and evidence of human uses. Motorized and non-motorized vehicles and equestrian use will be prohibited in these areas. (other things to consider addressing: hunting restrictions and regulating access by pets)

Primary recreation activities managed for within this area include perimeter nature study, and wildlife viewing. Access to these areas will be limited to accommodate ongoing maintenance, monitoring, and ecological studies. The use of signage, fencing, or other access control may be necessary in some cases to limit access to these areas.

Management Area 2 - Incidental Use

This area will be managed to be predominantly natural or natural appearing. Evidence of human activities may be present, but subtle. Motorized and non-motorized vehicles and equestrian use will be prohibited in these areas. Very rustic, low impact facilities for the administration of visitor use will be allowed. On-site interpretive facilities, trails, and signage will be designed to harmonize with the existing natural environment if present.

Primary recreation activities managed for within this area include wildlife viewing and nature study.

Management Area 3 - Human Interface

This area will be managed to be a natural appearing environment. Evidence of humans, restrictions, and controls are present. Facilities for the administration of visitor use such as interpretive signage, gravel and chip surfaced roads and trails, viewing platforms, equestrian facilities and staging areas are allowed but will be built with a rustic design theme. Motorized vehicle use is this area is prohibited.

Within this area the concentration of users is moderate, and there is often evidence of other visitors. Freedom of recreational choice will be maintained with independence and closeness to nature, important. Primary recreation activities managed for within this area include hiking, wildlife viewing, nature study, and photography.

Management Area 4 - Facilities

This area will contain those facilities and infrastructure improvements necessary to accommodate intensive human use, including interpretive, administrative, research and classroom structures, and support improvements. Protection of native species and habitats will not be a primary consideration within this area.

Concentrations of visitors and contact with administrative/management staff will be high within this are. Activities may include sign and display construction, classroom teaching, public meetings, vehicle parking, offices, research related project preparation, bicycle touring, and maintenance and storage of equipment.

West Eugene Wetlands
Public Ownership and Facilities Plan
Management Areas

Map Produced by LCOG: March 2, 2001

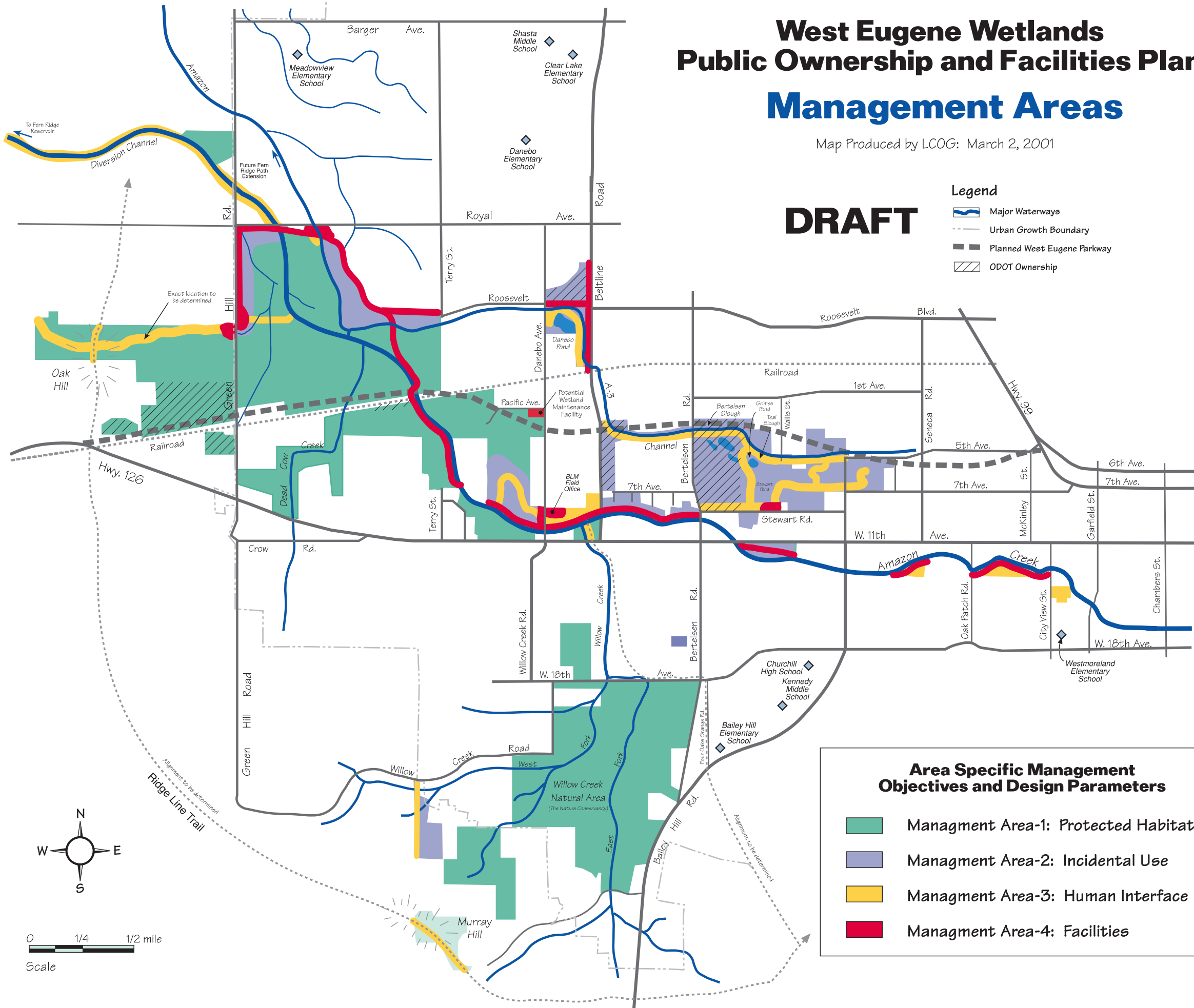
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Legend

- Major Waterways
- Urban Growth Boundary
- Planned West Eugene Parkway
- ODOT Ownership

Area Specific Management Objectives and Design Parameters

- Managment Area-1: Protected Habitats
- Managment Area-2: Incidental Use
- Managment Area-3: Human Interface
- Managment Area-4: Facilities



Management Area 1 - Protected Habitats

This area will be managed to maximize the protection of plant and wildlife habitat and be essentially free from human impacts and evidence of human uses. Motorized and non-motorized vehicles, firearms use and equestrian use will be prohibited in these areas. (other things to consider addressing: hunting restrictions and regulating access by pets).

Primary recreation activities managed for within this area include perimeter nature study, and wildlife viewing. Access to these areas will be limited to accommodate ongoing maintenance, monitoring, and ecological studies. The use of signage, fencing, or other access control may be necessary in some cases to limit access to these areas.

Management Area 2 - Incidental Use

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Management Area 4 - Facilities

This area will contain those facilities and infrastructure improvements necessary to accommodate intensive human use, including interpretive, administrative, research and classroom structures, and support improvements. Protection of native species and habitats will not be a primary consideration within this area.

Concentrations of visitors and contact with administrative/management staff will be high within this area. Activities may include sign and display construction, classroom teaching, public meetings, vehicle parking, offices, research related project preparation, bicycle touring, and maintenance and storage of equipment.

C. Management Actions

The management program for the WEW is defined by a series of actions which will be implemented to accomplish the management objectives listed in PART II, and to resolve the issues identified in PART III.

The management actions are addressed by management action categories and by area. Each major issue and the management actions selected to address that issue are listed and identified below. Alternative management actions which were considered but not selected are listed in Appendix H.

1. Land Tenure

Action 1.1 Acquire through exchange or by purchase of either fee title or easements for private lands from willing sellers where persistent visitor trespass problems occur. (Area 1, 2, 3).

Discussion Issues addressed: Recreation, Access. Situations may arise where due to the juxtaposition of the public/private land ownership, a persistent trespass problem develops on private land. This sort of situation should be avoided through proper design and/or mitigation, however if these methods prove to be inadequate, acquisition of rights to the land where persistent trespass occurs may be the better resolution for the private landowner.

Action 1.2 Continue to offer to acquire private lands along the Amazon canal (Area 1, 2, 3).

Discussion Issues addressed: Recreation, Access. Use of adjoining private property by visitors is a source of conflict and is aggravated by the fact that many visitors assume the entire area is in public ownership. When confronted by private landowners, they may react inappropriately because they suspect their rights are being violated. The combination of information and physical boundary delineation could help reduce this source of conflict.

Action 1.3 Allocate the public lands at the Danebo Ave. site for disposition through Recreation and Public Purposes Act Lease/Patent. (Area 4)

Discussion As each partnering agency is able to acquire funding to develop it's facilities at the Danebo Ave. site, lease the needed land to the partnering agency so that upon construction of it's facilities, the needed lands may be patented to the agency. This would allow agencies other than BLM to participate in the construction of the educational and administrative complex with full ownership of their facilities.

Action 1.4 Seek to acquire the private property to the immediate south of the Danebo site (between west 11th and the Amazon Canal.

Discussion This site would be suitable for use as a parking lot for use by visitors to the Danebo wetlands educational complex and administrative offices.

2. Information and Interpretive Services

a. Communications

Action 2.1 Prepare a comprehensive communications, interpretation and signing plan. For each primary visitor facility located on the concept plan, the principal interpretive themes are identified in Appendix 3. The specific techniques or methods of communications (i.e., signing, kiosks, brochures, visitor services personnel, contact station, etc.) will be coordinated within this plan. (See Actions 2.2 - 2.15 for additional direction.)(Area : 2, 3)

Discussion Issue: Education, recreation. The most effective method for helping the visitors and students to appreciate the values of the wetlands is to provide them with the knowledge necessary to create an understanding of how the wetlands operate, the interrelationships of the natural and human interfaces, ecosystem functioning, and appropriate recreational uses.

The primary **communications themes** will include:

- a. Location of parking areas
- b. Rules of conduct, environmentally sound and wise use, area limits
- c. Storm-water runoff/waste cycle
- d. Wildfire hazards and fire management
- e. Location of under-utilized areas
- f. Emergency services information
- g. WEW directional information (trails, roads, hiking routes, points of interest)
- h. Availability of commercial services
- i. Road conditions, hazards, potable water
- j. Entrance or portal signing

- k. Hazards
- l. Location of public lands
- m. Equestrian/ Mt. bike ethics

The primary **interpretive themes** include:

- a. Wildlife (riparian habitats, ecology)
- b. Geologic features (soils)
- d. Willamette Valley native ecosystems
- e. Historical and cultural features
- f. Terrestrial fauna and flora
- g. Partnerships
- h. Multiple-use management
- i. Historic land uses
- j. The Area of Critical Environmental Concern
- k. Plant and animal adaptation
- l. Weather processes
- m. Rookery sensitivity, rare and endangered species
- n. Recreation opportunities
- o. Pedestrian/equestrian/ user ethics and cooperation.

Action 2.2 Develop visitor information/contact stations at the wetlands boundary entry points. (Area: 3,4)

Discussion Issues: Recreation, Access, Education. The wetlands access points such as parking areas for observation points and trailheads may be the only locations where there will be an opportunity to convey information to some of the wetland's visitors. Such locations are ideal for informing visitors of the wetlands recreational and learning opportunities, as well as for informing about special rules, location of sanitation facilities, etc. Also, work with Lane Transit District to provide wetlands information at the downtown bus station.

Action 2.3. Utilize informational materials (maps/brochures) and other interpretive devices to direct visitor use (by area, facility or type of use). (Area: Total Area)

Discussion Issues: Recreation, Access, Education

Action 2.4 Develop a interpretive and an environmental education program based on resource enhancement actions and other appropriate topics. (Area 3.)

Discussion Issues: Education. Environmental education programs could offer various levels of information. Support could include wetland exploration, guide availability to visiting k-12 school groups, suggested curricula ad equipment.

Action 2.5 Develop an interpretive program concerning native plant reintroduction for the WEW. (Area 1, 2.)

Discussion Issues: Education.

Action 2.6 Establish a volunteer program. (Area: Total Area)

Discussion Issues: Recreation, Access, Education.

Action 2.7 Provide naturalist-led interpretive programs (hikes, talks, demonstrations, etc.) at developed popular areas of interest to interpret important natural and cultural features. (Area: Total Area)

Discussion: Issues: Recreation, Access, Education.

Action 2.8 Interpret wetlands management by developing a tour (for bike and pedestrian users) along the Amazon Bikeway. (Area 2, 3.)

Discussion: Issues: Recreation, Access, Education.

Action 2.9 Design forms that encourage visitors to report wildlife observations, trail conditions, incidents and other comments. (Area: Total Area)

Discussion: Issues: Recreation, Education.

Action 2.10 Develop road tour pamphlets to interpret various natural, cultural and management features of the WEW. (Area 2, 3.)

Discussion: Issues: Recreation, Access, Education.

Action 2.11 Clearly and accurately show private lands on BLM maps and discuss private property rights in brochures and other informational media. (Area: Total Area)

Discussion: Issues: Recreation, Access.

Action 2.12 Indicate on maps and post locations on the ground viewing stations that have been provided for wildlife and botanical observation or other uses. (Area 2, 3.)

Discussion: Issues: Recreation, Access, Education.

Action 2.13 Indicate availability of and means for contacting emergency services providers at contact stations, the visitor center and in maps/brochures. (Area: Total Area)

Discussion: Issues: Recreation, Access, Education.

Action 2.14 Provide static interpretive signs and displays to interpret the area's pre-history and history. Enlist the help of the area's "old timers" in recording the verbal history of the WEW.

(Area: Total Area)

Discussion: Issues: Education.

Action 2.15 Through displays, brochures/maps, personal contacts and signing inform the visiting public concerning the locations and boundaries of the WEW and what activities and practices are allowed or prohibited.

(Area: Total Area)

Discussion: Issues: Recreation, Access, Education. Interpretation is the link between visitors and the natural values they encounter within the WEW. Considering the number of people that will annually visit this area, interpretation will be an effective means by which Wetland partners can convey information. Interpretation will go a long way toward changing attitudes and providing the visitor with insight of their actions on the environment.

By providing a range of both active and passive opportunities for visitors to better understand the natural and cultural features of the WEW along with the management programs for protecting those features while enhancing recreation experiences, many of the problems which affect the resources, neighboring landowners, the managing agency and the visitors themselves can be reduced or eliminated. The potential for visitors unintentionally harming the resources and other peoples' property, rights or enjoyment of the WEW can be significantly reduced.

Action 2.16 Accept donations for otherwise free maps, brochures and interpretive programs to help defray WEW operating costs.

Discussion: Issues: Education. Operating costs can be covered partly through donations by visitors for items that might be offered free of charge. Visitors could volunteer a nominal payment for such items. Such donations could then be kept in an independent account for use in defraying publication costs or for other operational needs.

Action 2.17 Charge a fee for maps or other printed materials and for interpretive programs offered at the district office or at field locations. (Area: Total Area)

Discussion: Issues: Recreation.

Action 2.18 Charge fees for maps/brochures and offer a full or partial refund for their return in useable condition.

Discussion Issues: Recreation. Each of the above listed actions would generate revenues which would be partly returned to the WEW rather than going directly into the United States general revenues or to another agency. These monies could be invested in improving facilities and visitor services within the WEW.

b. Signs

Action 2.19 Install portal signs at all WEW entry points. (Area 2, 3.)

Discussion: Issues: Access. Because special rules will apply to use of the wetlands, visitors should have no doubt about when they are within the wetlands boundary.

Action 2.20 Develop and install interpretive signs to interpret wildlife habitat and other area features of cultural or natural interest. (Area: 2, 3.)

Discussion: Issues: Education. Many natural habitats and relationships are virtually invisible to the average visitor. More awareness of habitats and habitat requirements could be created by installing educational signs that help explain the various habitats scattered throughout the wetlands.

Action 2.21 Install regulatory signs wherever restrictions on visitor activities are imposed, such as at trailheads for trails closed to motor vehicles or developed recreation sites where shooting is prohibited. (Area: Total Area)

Discussion: Issues: Recreation. The wetlands special rules governing visitor use will need to be posted so that all visitors are likely to be aware of them.

Action 2.22 Install directional signs and confidence signs along WEW roads and trails. (Area: 1, 2.)

Discussion: Issues: Recreation, Access. Periodic 'confidence markers' can help people unfamiliar with the wetlands to find their way around and can help reduce the potential for inadvertent cross country travel through fragile sites.

Action 2.23 Allow neighboring landowners to assist in boundary delineation and posting using BLM surveys and signs. (Area: Total Area.)

Discussion: Issues: Recreation, Access. Some neighboring landowners might be more diligent than the wetlands staff with regard to keeping the boundaries posted. In order to reduce the potential for confusing or inflammatory signage, standard boundary signs could be provided for the private landowners to post.

Action 2.24 Post roads at points where bike or pedestrian crossings occur. (Area: 1, 2.)

Discussion Issues: Access. A comprehensive sign installation and maintenance program will provide visitors with much of the information they need to have safe and enjoyable visits to the WEW, even when contact with managing agency staff is either not possible or not desired.

3. Visitor Services and Law Enforcement

Action 3.1 Implement a visitor awareness program of low impact use of the WEW. This program will utilize volunteers, visitor services and law enforcement personnel, interpretive brochures and other educational materials (see action 2.1) and will stress minimum impact techniques, pack-it-in pack out procedures, human waste disposal procedures, minimum impact hiking techniques, impacts of visitation. (Area: Total Area)

Discussion: Issues: Recreation, Education. Substantial maintenance cost reductions could be achieved if more visitors were able to learn and act upon a 'wetland ethic' that incorporated "Leave no Trace" principles.

Action 3.2 Monitor visitor use and unattended vehicles and property with Visitor services staff in coordination with volunteer hosts and law enforcement rangers. (Area: Total Area)

Discussion: Issues: Recreation. Visitor use patterns and behaviors are valuable for determining operational management and maintenance needs. In addition, field agency presence tends to reinforce visitor's compliance with special rules and minimum impact recreational use objectives while reducing the opportunities for criminal activity.

Action 3.3 Establish BLM and/or volunteer cooperator patrols for trails and other areas. (Area 1, 2.)

Discussion: Issues: Recreation. Similar to the discussion for the action above, management presence can be effectively projected over the indirectly managed facilities and sites when a recognizable agency representative is in the vicinity.

Action 3.4 Require that visitors pack out any trash or garbage that they generate during their visit to unimproved areas of the WEW. (Area 1, 2, 3)

Discussion: Issues: Recreation. In order to maintain the more primitive atmosphere of the protected and incidentally used areas, as well as the lightly improved areas, establish a special regulation requiring that visitors pack out their own trash rather

than provide receptacles. This would reduce overall maintenance costs and also discourage trash-bin raiding on the part of scavenging wildlife species.

Action 3.5 Establish visitor use capacities based upon the Area Specific Management Objectives. (Total area)

Discussion: Issues: Recreation, Access. Each management area's carrying capacity for human use should be determined. Following such determination, each area should be monitored to ensure that the prescribed carrying capacity is not exceeded.

Action 3.6 Require visitors to obtain permits for using areas of the WEW which are receiving more than 95 percent of maximum allowable use as prescribed under Action 3.5. Phase in permit requirement, making permits voluntary initially, and mandatory after a reasonable period, allowing the general public time to become aware of the permit requirement. (Area: 1, 2, 3.)

Discussion: Issues: Recreation, Access, Education. Ideally a measure such as this would prove unnecessary because other management techniques had been successful.

Action 3.7 Provide visitor registration logs at trailheads, education center, and developed viewing sites, etc. for voluntary visitor monitoring assistance. (Area: Total Area)

Discussion: Issues: Recreation. Voluntary visitor registration could provide useful demographic information about wetlands visitors, which might be used to provide better services to the visiting public.

Action 3.8 Conduct a comprehensive inventory of important aquatic and terrestrial habitats for flora and fauna, develop and prescribe the Limits of Acceptable Change (LAC) and institute a monitoring program to measure the effects of activity upon these habitats. (Area 1, 2.)

Discussion: Issues: Access. Potentially this kind of study and analysis could provide managers with a strong scientifically based argument for taking protective actions well before irreplaceable resources are in jeopardy.

Action 3.9 Enlist neighboring landowners to assist with data gathering on visitor use and resource conditions for monitoring LAC.

Discussion Issues: Recreation, Access. Information concerning the importance of habitat areas for flora and/or fauna is incomplete. The wetlands should be

inventoried to locate these habitat areas and a mechanism for protecting these habitat areas should be in place should there be a future need to protect them.

Action 3.10 Route, reroute or close trails and roads to avoid impacting sensitive habitats. (Area: 1, 2.)

Discussion: Issues: Recreation, Access.

Action 3.11 Erect physical restraints (i.e. fences, barricades) where necessary to protect sensitive habitats from visitor impacts. (Area: Total Area)

Discussion: Issues: Access. In situations where it appears that visitor use will or has the potential to adversely impact sensitive habitats it may be necessary to physically restrict or divert human activity to less sensitive locations. In many cases the sensitive site may not be apparent or may not even be sensitive at all times of the year, so temporary devices may often be sufficient.

Action 3.12 Cooperate with neighboring and inholding landowners to identify public land boundaries and post them so visitors do not accidentally enter private property.

Discussion: See Discussion for Action 2.23.

Action 3.13 Have BLM law enforcement, visitor services, maintenance and volunteers advise the visiting public that there are private adjoining properties which should be avoided.

Discussion: Issues: Recreation, Access, Education. While it may ultimately be the responsibility of the private landowner to post his/her own property, assistance in informing the public can be provided through a number of means under BLM or cooperating partner control.

Action 3.14 Unless otherwise designated, use of turnouts, observation overlooks, parking areas, etc. will be limited to day-use.

Discussion: Issues: Recreation, Access. Overnight use could limit the functionality of the wetlands, as well as create or introduce visitor management challenges that are not present for day use areas and facilities.

Action 3.15 Work closely with local emergency services providers to accommodate increased emergency assistance demands resulting from increased visitation to the public lands within the WEW.

Discussion: Issues: Recreation.

Action 3.16 Train volunteer hosts and other appropriate volunteers in basic first-aid, CPR, and insure that they are knowledgeable concerning the availability of emergency services.

Discussion: Issues: Recreation. Providing the broadest possible emergency first aid coverage for wetlands visitors could substantially reduce the time required to respond appropriately to emergency medical problems should such events be encountered by wetlands volunteers or staff.

Action 3.17 Train and qualify all WEW BLM personnel in CPR and First-Aid.

Discussion Issues: Recreation. The existing local emergency services providers could be overtaxed due to visitor-related problems in the WEW. The ability to assist visitors with common sorts of medical emergencies could be a valuable supplement to existing emergency services.

Action 3.18 Provide regular law enforcement ranger patrols throughout the WEW.

Discussion: Issues: Recreation. Frequent law enforcement presence could reduce the attractiveness of parts of the wetlands to persons who might be looking for opportunities to victimize other persons or practice behaviors that are damaging to the wetlands facilities or natural systems.

Action 3.19 Require Special Recreation Permits (SRP) for group use of trails and facilities, and require SRP's for events where necessary to protect the natural and cultural resources or reduce conflicts and hazards.

Discussion: Issues: Recreation. Establishing maximum visitor occupancy levels for areas as well as facilities provides one of the most basic ways of insuring that the social environment (type and amount of contact between visitors) does not detract from the quality of visitor experience opportunities or put excessive use pressure on facilities and natural resources. The SRP is an existing management tool that can be readily adapted to the wetlands situation.

Action 3.20 Allow commercial service providers operating under BLM permit to provide suitable advertising brochures or other media for display/distribution at the District Office and contact stations. (Area 4)

Discussion: Issues: Recreation. The reason for allowing commercial service providers to operate at all within the wetlands is because they could provide needed services to visitors in a manner that would benefit both the wetlands and the public. As such, they should be allowed to advertise the availability of those services, as long as the advertisements are tasteful and consistent with wetlands management goals and objectives.

Action 3.21 Post the requirement for Special Recreation Permits for commercial services such as birding guides, vehicle shuttles, stock or equipment rentals, etc., and allow only the types and amounts of commercial uses which would be compatible and consistent with the visitor management areas criteria. (Areas 3, 4)

Discussion: Issues: Recreation. Posting the permit requirement would make potential providers aware of the legal need to obtain the proper permit and also serve as a means of advertising the opportunity to provide commercial services to potential providers.

Action 3.22 Limit commercial use volume to not more than 25 percent of the total visitor use allowed in an area under Action 3.19 if total use reaches prescribed zonal maximum use levels.

Discussion Issues: Recreation, Access. There is potential for commercial service business ventures to exploit visitor needs or demands within the WEW. Such businesses can sometimes be accommodated through control under the BLM SRP system and enhance recreation use opportunities, however managerial discretion must be carefully exercised to insure that commercial uses do not detract from the WEW's natural and cultural values and experience opportunities prescribed for the visitor management areas.

Action 3.23 Provide effective 2-way radio communications coverage for the entire WEW and insure that necessary volunteers and cooperating organizations and agencies have access to the radio net.

Discussion: Issues: Recreation. This item would be useful for coordinating group uses to reduce the potential for overcrowding some areas and would also be invaluable in the event of an emergency medical or law enforcement problem.

Action 3.24 Prohibit the discharge of firearms on all public lands within the WEW.

Discussion: Issues: Access, Recreation The wetlands may be utilized at any time or any place for educational activities. Firearms discharge for hunting or other reasons might needlessly jeopardize the safety of the visiting public and educational groups as well as the volunteers and staff. Furthermore, the opportunity to view wildlife, a major recreational and educational use of the wetlands, could be severely impacted by shooting.

4. Facilities

a. Environmental Education/Visitor Contact

Action 4.1 Develop a staffed Environmental Education and visitor contact station at the Danebo BLM property.

Discussion: Issues: Recreation, Education.

Action 4.2 Develop a maintenance and operations facility at the south side of Pacific Avenue at Danebo Drive.

Discussion: Issues: Recreation. With the removal of facilities such as the office storage, barn and cooler at the Danebo site to make room for the environmental education facilities, it will be necessary to house supplies, equipment and some workspaces at an alternative location. Due to its proximity and adjoining land uses, as well as its lack of wetland habitat, the Pacific Ave. site appears to be ideally suited for this use.

Action 4.3 Acquire additional vehicle parking space near or adjoining the Danebo site.

Discussion: Issues: Access, Education. The proposed educational center at the Danebo site may fully utilize that site for educational support features, leaving inadequate space for staff and public parking. Existing commercial properties adjoining the Danebo property may become available to accommodate staff and public visitor parking needs.

Action 4.4 Extend the elevated boardwalks crossing the wetlands areas surrounding the Danebo site to improve access and interpretation opportunities directly adjacent to the education center.

Discussion: Issues: Education, Access.

Action 4.5 Erect a wildlife observation tower near Grimes pond.

Discussion: Issues: Access, Education, Recreation. The wildlife viewing blind at Stewart Pond was a failure because it attracted unsuitable uses such as transient camping, drug abuse, littering, etc. An open tower at a more suitable location nearby would provide the desired wildlife viewing opportunity while not attracting undesirable uses.

b. Sanitary Facilities

Action 4.9 Monitor the undeveloped areas to determine whether certain places or the uses of those places are resulting in improper human waste disposal.

Discussion: Issues: Recreation, Access. Sites need to be monitored to insure that human waste does not become a health risk to visitors or downstream water users. If human waste contamination becomes a problem, it may be necessary to install some type of containment facility (toilet) which would not detract from the character of the landscape and which could be easily serviced.

Action 4.10 Install sanitation devices at observation overlooks, trail heads and parking areas. (Area 4)

Discussion: Issues: Recreation. Suitable waste disposal facilities will be needed at all those locations where individuals or groups of visitors, including school classes, will congregate. Vault toilets may be adequate for most of the less intensively used sites, however some locations may eventually require flush systems with connection to the City's sewer systems.

c. Trail Development

Action 4.11 Continue construction of the Fern Ridge/Amazon Bicycle Path from the South Terry Street terminus across the wetlands to the proposed Greenhill Road overlook site (Area 4).

Discussion: Issues: Recreation, Access. Construction of the Fern Ridge/Amazon Bicycle Path across the wetlands will implement the West Eugene Wetlands Plan and other associated plans, thereby fulfilling a major commitment on the part of the WEW partnering agencies. This bicycle path will provide a durable and controllable access route for visitors, and will be the primary platform for introducing the visiting public to wetlands values and management goals.

Action 4.12 Develop a pedestrian trail from the Greenhill Overlook Site to the public land parcel near the top of Oak Hill. (Area 3)

Discussion: Issues: Recreation, Access. The Ridgeline Trail is planned to eventually cross over Murray Hill and Oak Hill. A linking trail from the Greenhill Overlook to Oak Hill would accommodate public access between the Ridgeline Trail and the wetlands.

Action 4.13 Establish a pedestrian trail from the Greenhill Overlook into the wetlands to provide for school class access to the diversion channel.

Discussion: Issues: Recreation, Access, Education. A minimal trail is needed to allow for small groups engaged in guided learning experiences access into the wetlands from the Greenhill Overlook. During the wet season, movement over completely unsurfaced or unmodified terrain in this area is difficult due to clinging mud.

Action 4.14 Maintain the service road on the Amazon Diversion Channel to the north of Royal Avenue to accommodate equestrian use.

Discussion: Issues: Recreation, Access. Concerns with the introduction of exotic seeds and vegetation from stock droppings limits the acceptability of equestrian uses in parts of the wetlands that are being restored with native species. The diversion channel maintenance road, however, to the north of Royal Avenue, does not presently have the potential to impact habitat restoration projects, and is also an attractive equestrian use opportunity.

Action 4.15 Complete the Balboa loop and the Stewart Pond loop pedestrian trails.

Discussion: Issues: Access, Recreation. This trail was initiated as part of the public lands day celebration for 1999, however requires a section of elevated boardwalk to traverse a stretch of sensitive wetlands.

Action 4.16 Extend the Stewart Pond Pedestrian Trail along Teal and Bertelson Sloughs.

Discussion: Issues: Recreation, Access This trail extension would create additional wildlife viewing capacity in the Stewart Pond/Grimes Pond vicinity.

d. Other Developments

Action 4.25 Construct fences or barriers where needed to control inappropriate or unauthorized visitation or use. Access may need to be restricted both within the publicly owned wetlands and/or from public lands onto private lands. Install effective barriers at entry chokepoints to preclude vehicle use within designated areas closed to vehicle use.

Discussion: Issues: Access. Fences, gates or other barrier systems may be needed to redirect access away from sensitive habitat areas or to limit use of some areas that would be vulnerable to damage from human or vehicle traffic, either through direct mechanical impact or from the potential for introduction of undesirable plant species.

e. Rehabilitation

Action 4.20 Where access rights and associated roads are no longer required to access adjoining private land, rehabilitate the access roads, either to serve as trails or to be totally eliminated.

Discussion: Issues: Access.

f. Motorized Access

Action 4.21 Close the wetlands to Off Highway or off-road motor vehicle use.

Discussion: Issues: Recreation, Access. Motorized vehicular use would not be permitted off paved roads specifically designed and intended for motor vehicle use. This prohibition would not apply to official vehicles used in the performance of official work, nor to specifically authorized motor vehicle use as authorized by the field manager.

5. Staffing

Action 5.1 Establish a full time maintenance staff, capable of handling all aspects of grounds and building maintenance, construction project supervision, heavy equipment operation, water system repair and water quality testing, sign construction, road and trail construction and repairs.

Discussion: Issues: Recreation, Access.

Action 5.2 Provide high-visibility BLM maintenance, law enforcement, visitor services staffing (including volunteers) in the WEW. Increase staffing during periods of unusually heavy visitation such as holiday weekends.

Discussion Issues: Recreation. A full time environmental education, visitor services, law enforcement and maintenance staff supported by volunteer efforts and additional seasonal staff will insure that facilities and use areas are maintained to BLM standards, and resource damage and conflicts between users is reduced. A strong field presence is a proven method for implementing management objectives and increasing visitor security and awareness.

Action 5.3 Establish host volunteer positions. Provide volunteer host for other developed sites during heavy use periods. Recruit from the local area for volunteers to work as hosts, docents and visitor contact people at the developed facilities or in the field.

Discussion: Issues: Recreation, Access, Education.

6. Maintenance

Action 6.1 Prepare and implement a maintenance plan for WEW. The plan should address maintenance responsibilities of visitor management personnel, volunteers, contracts services, wetlands maintenance, frequency of maintenance and specific tasks to be performed at each site and cost.

Discussion: Issues: Recreation, Access, Education.

7. Cooperative Agreements and Contracts

Action 7.1 Contract City of Eugene and County Sheriff for patrol services and support to WEW staff.

Discussion: Issues: Recreation.

Action 7.2 Develop Cooperative Management Agreements with user groups to help maintain those facilities, trails or areas from which these groups derive benefit.

Discussion: Issues: Recreation, Access, Education.

Action 7.3 Develop Cooperative Management Agreements with user groups for trail system management.

Discussion: Issues: Recreation, Access.

Action 7.4 Develop cooperative agreements with local emergency services providers to enhance their capabilities and to effectively interface with BLM's emergency services personnel. Explore possibility of cost reimbursement for service provided.

Discussion: Issues: Recreation.

Action 7.5 Enter into a memorandum of agreement with the City of Eugene Dept. of Public Works for cooperative maintenance of BLM facilities along the Amazon/Fern Ridge Bike Path.

Discussion: Issues: Recreation, Access.

Action 7.6 Maintain the agreement with the Oregon Department of Forestry for fire protection.

Discussion: Issues: Recreation, Access.

Action 7.7 Develop agreements as needed to resolve conflicts between local, State and Federal agencies where overlapping or competing management responsibilities may exist.

Discussion: Issues: Recreation, Access, Education. Due to the proprietary nature of BLM's jurisdiction over the WEW, close coordination with other Federal, State and local agencies and organizations will help insure more complete public service and keep the various agencies from working at cross-purposes.

8 . Fire Management

Action 8.1 Include restrictions on wildfire suppression activities to protect sensitive flora and fauna habitats.

Discussion: Issue: Access.

Action 8.2 Have volunteers supplement BLM staff in providing the visiting public with wildfire prevention information and emergency evacuation information.

Discussion: Issues: Recreation, Access, Education.

Action 8.3 Maintain a wildfire suppression plan in cooperation with adjoining landowners.

Discussion: Issues: Recreation, Access, Education.

Action 8.4 Post fire restrictions during high fire danger periods.

Discussion: Issues: Education. Additional fire protection measures by BLM would reduce the likelihood of wildfire seriously jeopardizing life, property and/or the natural and cultural resources within the area.

Action 8.5 Develop a prescribed burn plan.

Discussion: Issues: Recreation, Access, Education. Prescribed burning is an important habitat management tool which is needed to restore and maintain habitats.

D. Decisions That Must Be Made

1. Which Management Actions listed under the Proposed Action/Management Program will be implemented? This would include whether the right-of-way to the City of Eugene would be granted to extend the Amazon/Fern Ridge Bike Path.
2. What mitigating measures will be implemented?
3. What monitoring systems and methodologies will be established in order to assure that the plan objectives are being met?
4. How will such things as maximum visitor use levels be established for the 4 management areas?

PART V. IMPLEMENTATION

A. Standard Implementation Procedures

Implementation of any of the previously listed actions on Bureau administered lands would be subject to existing laws, regulations, and BLM Manual specifications, and would be constrained to avoid or minimize impacts that could occur to other resources as follows:

1. A site-specific environmental analysis (EA) will be conducted prior to actual construction or treatment phase of the facilities or projects proposed. During the early scoping stage of an EA, the proposed project will, whenever possible, be modified to avoid or minimize identified potential negative impacts. The EA will document the magnitude and type of impacts of proposed development or treatment to assist in making a decision on each proposal.

2. An analysis of potential effects on rare, threatened, endangered, and State sensitive plants and animals will be required for each proposal. If needed, consultation with the U.S. Fish and Wildlife Service will be initiated. If any part of the proposal will have a negative impact on an officially listed rare, threatened, or endangered species, or its habitat, the project will either be modified to avoid this impact or abandoned. If any part of the proposed project will have a negative impact on a State sensitive species, the project will be modified to avoid the impact where possible. Where it is not feasible to so modify the project, a determination will be made as to the effects on the species (or subspecies) as a whole. Consultation with the U.S. Fish and Wildlife Service will be initiated to aid in this determination. If it is determined that the project will not result in jeopardy to the species, the project may be approved; otherwise, it will be abandoned. The final determination will be made by the State Director. The BLM sent

a Biological Assessment to the US Fish and Wildlife Service in February, 2001 for the Amazon Bike Path, and is expecting to receive a Biological Opinion from the Fish and Wildlife Service in the near future.

3. The BLM will meet agency responsibilities under Section 106 of the National Historic Preservation Act (as amended) through stipulations outlined in the Programmatic Memorandum of Agreement (PMOA) between the BLM and the Advisory Council of Historic Preservation dated May 15, 1986.

A Class III Cultural/Historical Inventory will be conducted prior to commencement of any development activities which involve land disturbance.

The Bureau of Land Management will design the development program to avoid adverse effects on properties included in or eligible for inclusion in the National Register of Historic Places, unless it is not prudent or feasible. Where avoidance is not prudent or feasible, the Bureau will consult with the State Historic Preservation Officer for purposes of developing a mutually acceptable mitigation plan. Mitigation will be implemented prior to ground disturbing activities.

VI. Monitoring

A. Resources to be Monitored

The objectives of the Plan are specified by Visitor Management Area (Area) as shown in Part IV-B. of the plan. These objectives require that the physical, social, and managerial environments within each Area combine to create an "experience opportunity" which is consistent with the management objectives for the Area. BLM planning combined with the environmental assessment process insures that direct BLM management actions involving resource and/or use modifications, whether by BLM or authorized public land users, will conform to the management objectives and not jeopardize the experience opportunity specified for the particular Area. In order to insure that public uses or BLM management actions do not result in a cumulative change which violates the objectives for each area, potential agents of such a change must be identified and Limits of Acceptable Change (LAC) must be specified for each Area. In the WEW, the condition of natural and cultural resources, as well as the perceptions of the visiting public and agency staff, can be monitored to determine how well the management program is meeting the objectives of the Plan.

B. Change Agents and Indicators Requiring Monitoring

1. Agents of Change

Apart from naturally occurring phenomena such as lightning-caused wildfire, earthquakes, landslides and weather, the only agent of change which is not under the direct management control of the BLM is the general public (including neighbors and other agencies). Direct agency control of the public is generally not a desirable or necessary goal and would, in and of itself, violate the area's management objectives in most cases. However, the visiting public can affect the desired experience opportunity in a Area in three basic ways; either through excessive user density, by pursuing activities or using technologies which are inconsistent with the setting, or by modifying the physical environment in such a way that the area objectives are violated.

2. Indicators of Change

a. Visitation Increases - Increases in general visitation, if they occur during the traditionally heavy use season and are sustained over time may signal that the area's overall carrying capacity, as determined by the Area criteria, is being approached.

b. Activity Preference Shifts - The existing and planned mix of developed and undeveloped sites will accommodate the traditional distribution and numbers of visitors engaged in recreational activities. A significant shift in activity preferences could overload some sites and/or create conflicts between competing activities within sites or areas.

c. New Technologies - The advent of new technologies or new applications of technologies can create unanticipated impacts to both social and physical environments. Past examples are off-road vehicles, para-gliders, jet-skis, hang gliders, motorhomes, "boom boxes" and styrofoam containers.

d. Resource Dependent Businesses - The advent of outfitter and guide service businesses which depend on the use of public land resources can create increased pressure on the social and physical settings by drawing visitors who would not otherwise consider visiting the area.

e. Economic Factors - Changes in the distribution of wealth or in the price of goods and services can lead to increased travel and visitation as occurs when gasoline prices fall. Another example is the increased incidence of homeless camping on public lands.

f. Demographic Shifts - Changes in the cultural make-up of visitors can place new demands upon resources and facilities. An increase in non-English speaking visitors could lead to increased non-compliance problems due to misunderstanding of spoken or printed rules, regulations, and directional information.

g. Environmental Factors - Changes in environmental conditions, both within the area and outside it, can have a substantial impact upon use levels. Unseasonably wet

weather could result in hikers or equestrians damaging trails which would withstand use under normal weather conditions.

C. Limits of Acceptable Change

Both the physical and social settings, consisting of the measurable criteria under the Area objectives for each area, need to be monitored to insure that visitor use is consistent with the plan. Monitoring is accomplished by establishing thresholds for measurable resource conditions. These thresholds represent the limits of acceptable change or LAC.

1. Management Area 1 (Protected habitat Areas).

a. Physical Setting Criteria Thresholds

1. Visual or audio intrusions must not occur in the foreground from other than scientific/recreational use.
2. Irreversible evidence of man must not occupy the area.
3. Air, water and/or noise pollution must not exceed low intensity and frequency of occurrence.
4. A predominately natural environment must be maintained. No more than 70 percent of the area may contain subtle resource modifications. No more than 3 percent of the area may contain obvious resource modifications. This includes the sum total of both public and private lands within the area.
5. Facilities may be provided for resource protection. Construction is from on-site materials where possible.

b. Social Setting Criteria Thresholds

1. Formalized group spacing may be used to disperse use. Evidence of others is observable.
2. Frequency of contact with other users is very low.

3. User density does not exceed a range of from one person per 5 acres in uneven, densely wooded areas to one person per 20 plus acres in wide open areas.

2. Management Area 2 (Incidental Use Areas).

a. Physical Setting Criteria Thresholds

1. Visual intrusions must not occur within the near foreground.
2. Irreversible evidence of man must not occupy more than 25 percent of the area.
3. Air, water and/or noise pollution must not exceed moderate intensity and frequency of occurrence.
4. A predominately natural environment must be maintained. Modifications may be evident but must be harmonious with the natural environment. No more than 70 percent of the area may contain subtle resource modifications. No more than 10 percent of the area may contain obvious resource modifications. This includes the sum total of both public and private lands within the area.
5. Facilities may be provided for user safety and/or resource protection.

b. Social Setting Criteria Thresholds

1. Moderate evidence of the sights and sounds of man and these usually harmonious with the natural environment.
2. Frequency of visitor contact is moderate near developed sites; low away from developed sites.
3. User density does not exceed 1 person at one time per acre overall.

3. Management Area 3 (Human Interface Area) .

a. Physical Setting Criteria Thresholds

1. Irreversible evidence of man may occupy up to 50 percent of the area.

2. Air, water and/or noise pollution are moderate to high in intensity or frequency.
3. Substantial resource modifications to enhance recreation activities and to maintain soil and vegetative cover.
4. Facilities may be provided for visitor safety, convenience , specialized uses and to accommodate large numbers of visitors.

Facilities are provided for intensive motor vehicle use and parking.

b. Social Setting Criteria Thresholds

1. Sights and sounds of man readily evident.
2. Frequency of contact with other visitors is moderate to high.
3. User density ranges from one to 15 persons per acre at one time.

4. Management Area 4 (Facilities).

a. Physical setting criteria

1. Irreversible evidence of man occupies much or all of the area.
2. Facilities occupy most or all of the area.
3. Accommodation for human comfort and safety is strongly evident.

b. Social Setting Criteria Thresholds

1. Sights and sounds of man dominate.
2. Frequency of visitor contact is high to constant.
3. User density may exceed 100 persons per acre at one time.

5. Triggers for Management Concern and Action

If any of the physical or social setting criteria thresholds are approached, management concern would be appropriate. If any of the thresholds are exceeded (exclusive of unusual "shock" events such as an unusually heavy July fourth holiday weekend), then corrective management action should be triggered. All corrective

management action possibilities cannot be foreseen; however, readily available actions such as restricting commercial use, rescheduling use, requiring permits or closing certain areas to certain types of uses could be considered.

D. Monitoring Methodology

1. Mechanisms

There are six tools which BLM uses to monitor visitor use and resource conditions. These are as follows:

a. Patrol Logs

Visitor services and law enforcement personnel perform regular patrols of all the public lands within the WEW. Observations of numbers of visitors, activities and violations of rules are recorded on the patrol logs which are completed on a daily or per patrol basis. These logs are then reviewed by the supervisor and provide an immediate record of visitor use and resource problems.

b. Site Monitoring Reports

Selected sites are periodically monitored using photographic and other recording methodologies for comparative purposes. Monitoring reports based upon these observations are compiled annually and used by resource management specialists to recommend corrective actions.

c. Special Recreation Permits (SRPs)

SRPs for commercial, competitive and special area uses or events provide information on party size, frequency of use, activities, facilities used or provided, duration of use and any incidents or problems encountered by the permittee. They also provide a direct feedback mechanism to administering BLM personnel concerning the condition of the resources and facilities during routine compliance checks and post-use reports.

e. Traffic Counters

Traffic counters provide gross data on vehicular traffic near recreation sites and facilities, and after proper ground-proofing, can be used to measure gross use of areas when no agency personnel are present to record observations.

f. Correspondence, Telephone Inquiries and Complaints

Some of the most useful information concerning visitor use and resource conditions is volunteered by the general public in the form of letters, telephone calls, personal contacts with agency personnel and volunteers, inquiries and complaints. Often this sort of information takes the form of a request for a special service or a complaint about a situation the visitor encountered and wishes to see resolved.

g. Site registers

Visitor sign-in registers at the primary contact points would provide a mechanism for visitors to register their use of the wetlands as well as provide a source for future mailings or other contacts, as well as providing an indication of visitor use levels.

2. Data Collection

Data collection is an integral part of virtually all resource and visitor management activity, and occurs on a daily basis with routine law enforcement, maintenance and visitor service patrols, as well as constantly through various off-site contacts with the public. Cultural resource sites and special habitat monitoring sites are reviewed periodically and reported at least annually unless damage is occurring, in which case monitoring would be increased.

3. Data Analysis

Patrol logs and site registers are reviewed on a daily basis by the program leader. Any unusual deviation in a change agent should be noticed. Also, the perceptions of visitor services personnel and volunteers are taken into account as they report their observations.

During the annual compilation of use records for the Recreation Management Information System (RMIS) report near the end of each fiscal year, use levels, activity preferences and trends are compared to prior year records and effects of visitor use on planned carrying capacities as defined by the Visitor Management Area objectives are assessed. Subtle changes in visitor use become apparent during this analysis process.

E. Thresholds Triggering Management Concern

The following thresholds which can be identified through monitoring can serve as indicators that the planned visitor use capacities and uses are being violated and may require corrective management actions.

1. Visitor Management Area Use Levels

When or if use levels exceed the prescribed levels (more people at one time per acre than specified above) for a visitor management area.

2. Resource Alteration/Damage

Visitor caused resource alteration can take many forms. Some of the most common indicators of this situation include such things as vehicles parked along narrow roadways or atop natural vegetation because provided parking spaces are unavailable. Noticeable quantities of human waste near sites which have sanitary facilities, compacted ground and damaged vegetation in places where evidence of use was previously absent are also common indicators.

It is important that the sources of resource damage be identified by direct observation if possible so that over-use can be distinguished from deliberate illegal activity such as vandalism.

3. Visitor Conflicts

One of the most compelling indicators that planned uses have exceeded the designed use capacity is evidence of conflict between previously tolerant visitors. Conflict may occur between visitors pursuing the same type of experience as well as between visitors seeking different experience opportunities. Conflict usually is the result of one or both involved visitors having their expectations interfered with by the other.

4. Permittee Complaints

When a resource dependent activity is permitted by BLM and it is nearing its carrying capacity (usually determined by a perceived shortage of a certain resource), permit holders will often demand that limitations on use be imposed by BLM action. Care must be exercised to insure that activity competition rather than resource depletion or actual crowding is not the principal motivation for permittee complaints.

F. Use of Monitoring Data

Monitoring data is used to compile reports, as previously noted, and to identify problems as well as opportunities to improve management of the WEW. The data is also used to amplify budget requests and support resource manipulation and visitor management recommendations. Additionally, in reviewing the impact of proposed resource management actions, monitoring data can often provide quantifiable comparisons for alternative selection.

Most importantly however, monitoring provides the means for measuring the success or failure of both planned actions and the day-to-day operations for which the BLM is responsible within the WEW.

GLOSSARY

ACEC - Area of Critical Environmental Concern - Public land where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards.

Cultural Resource - Any definite location of past human activity identifiable through field survey, historical documentation, or oral evidence; includes archaeological sites, structures, or places, and places of traditional cultural or religious importance to specified groups whether or not represented by physical remains.

Cultural Site - Any location that includes prehistoric and/or historic evidence of human use or that has important sociocultural value.

Environmental Impact Statement (EIS) - A formal document to be filed with the Environmental Protection Agency that considers significant environmental impacts expected from a major Federal action.

FLPMA - Federal Land Policy and Management Act.

Historic Site - A cultural resource resulting from activities or events dating to the historic period.

National Register of Historic Places - A formal list, established by the National Historic Preservation Act of 1966, of the nation's cultural resources worthy of preservation at the local, state or national level.

NEPA - National Environmental Policy Act

Off-Road Vehicle (ORV) - Any motorized vehicle capable of travel over land or water.

Recreation Experience Opportunity - The opportunity for a person to realize predictable psychological and physiological outcomes from engaging in a specific recreation activity within a specific setting.

Resource Management Plan - The primary land use planning and land use allocation document that determines how BLM will manage the public lands under it's jurisdiction.

Recreation Opportunity Spectrum (ROS) - A continuum used to characterize recreation opportunities in terms of setting, activity, and experience opportunities. The spectrum contains six classes ranging from Primitive to Urban. Each class is defined in terms of physical, social and managerial characteristics. See BLM Manual Part 8320.

Scenic Quality - The relative worth of a landscape from a visual perception point of view.

Visual Resources - The visible physical features on a landscape: e.g., land, water, vegetation, animals, structures, and other features.

WEW - West Eugene Wetlands

Appendix A. Planning Process

1. Planning Schedule
January 2000 to March 2001
(See item 4 below for scheduled parts)
2. Public Scoping Process.

WEST EUGENE WETLANDS RECREATION ACCESS AND ENVIRONMENTAL EDUCATION PLAN PUBLIC PARTICIPATION PLAN

Goal/Objectives:

- ☞ Implement West Eugene Wetlands Plan Goal 3.8: “Allow for multiple uses of protected wetlands, while ensuring that functions and values are maintained or enhanced.”
- ☞ To create a design for accommodating both educational and recreational access to the West Eugene Wetlands (WEW) while protecting the area's resource values and ecological functioning.
- ☞ To communicate the values of the West Eugene Wetlands (WEW) to visitors and to the surrounding community and to enlist their support and cooperation in maintaining and protecting those values.
- ☞ Determine facility and access needs for projected recreational and educational usage.
Define appropriate uses and activity levels for the project area and discourage inappropriate uses.
- ☞ Identify costs associated with implementation & maintenance of proposed system.
- ☞ To create opportunities for life learning experiences for students participating in the 4J and other environmental education programs.

Information Needs:

- ✓ Define existing uses (start a list based on comments from staff, ed. center committee, neighbors...)
- ✓ Identify existing and projected recreational and educational uses.
- ✓ Identify the traditional users (scientific, industrial, agricultural and educational) of the WEW. Find out who feels they have historical stake in the area - a sense of ownership for it, and who is being displaced by the WEW project?
- ✓ What traditional activities are inconsistent with or likely to be displaced?

- ✓ What new use opportunities are being created or are already occurring in the area due to landscape modifications?
- ✓ What activities are likely to be in conflict with the management objectives for the area (and what are the historically accepted management objectives - where are they documented?)?
- ✓ Are there known or anticipated cultural barriers to communication?
- ✓ Are there areas of disagreement (goals and objectives) between the partners and cooperators?
- ✓ What will the surrounding community look like in 5 years? 10 years? 20 years?
- ✓ Stormwater - projected land uses map - show buildout (these exist)

Customers:

Who are the existing and future customers who will use and benefit from the WEW?

Traditional WEW partners

City of Eugene

Lane County

The Nature Conservancy

Audubon Society

4J School District

Bethel School District

Amazon Bike Trail users

Oregon Equestrian Trails - equestrians

Neighboring landowners and tenants

Army Corps of Engineers

Gears - bicycle enthusiasts

senior centers

Communication Methodology:

- Develop an orientation document and map that describes the WEW, it's history including the roles of the various partners, accomplishments and planning parameters/constraints/decision space. Use this document as the primary communication device for mailings, newsprint and radio/television interviews and information pieces. All WEW partners must agree to this orientation/information package.
- Post the information package on the internet using BLM, City of Eugene, and other appropriate websites.
- Publish and mail the package to known interested parties (each partner could do a portion of the mailing to their known customers).
- Identify spokesperson(s) for media contact and utilize agency PAO for arranging media contacts and information pieces. Schedule heavy media coverage for the week prior to the public meeting(s).

- Invite direct media coverage of the public meeting.
- Conduct public meeting for issue identification and information sharing.
- Record the public meeting in detail - send out a post meeting record to all participants and full mailing list.
- Do another general mailing and news media release to announce availability of the draft plan, alternatives considered and environmental documentation (NEPA compliance), review requirements, etc. and invite public feedback.
- Following protest and appeals resolution, publish a final plan document and announce it's availability via news releases and mailing lists. Place Final Plan on the appropriate websites.

Public Scoping and Review Process

ITEM	DATE	DESCRIPTION
Identify Interested publics/users	4/6/00	Identify known and potentially interested individuals, groups, organizations and businesses. Develop the initial contact list for this planning effort. Target neighbors and potentially displaced users.
Constraints and Opportunities (Plan Orientation/Information Package) Create invitation mailing document	6/30/00	Compile existing plans and decision documents. Describe the planning environment, decisions already made, legal or policy constraints, plan objectives and goals. Describe what the plan will do and what the plan will not do. Synopsize the planning effort scope, constraints, goals, opportunities and time frames for a mass mailing invitational document that will be mailed to known interested publics. This document should announce Issue Identification meeting times and location(s). Post on appropriate internet sites.
TV/radio/newspri nt Media announcements	6/30/00	Conduct informational news media contacts to help inform the general public about the opportunity to participate in the scoping and issue ID phase.
Arrange public meetings	7/15/00	Select an adequately spacious neutral ground location such as a school or non-agency meeting room. The meeting room should have a minimum seating capacity for 60 participants. Schedule the meeting for the convenience of the participants, such as a weekday evening.
Conduct Public Meetings	8/5-12/00	Format the public meeting(s) so that interested parties have an opportunity to voice concerns (not a formal hearing with prescribed testimony). Use a facilitator to conduct the meeting and at least two recorders.

Consolidate issues	8/29/00	Internal process (potential exists to invite 'anyone interested' into this part of the process or to form an ad hoc group for consolidating issues and alternative development). Gain approval for consolidated issues from WetHeads.
Communicate Issues to public meeting participants	9/21/00	Mailing and internet posting. Send list of consolidated issues to meeting participants and mailing list.
Develop Issue-Driven Alternatives	10/15/00	(opportunity for an ad hoc committee)
Draft Plan	11/30/00	(opportunity for an ad hoc committee)
NEPA Compliance - Public Reviews	12/15/00 TO 01/15/01	Publish the draft plan, NEPA compliance documentation and post on internet sites. Allow 30 days for review and comment
Issue Proposed Decision	02/20/01	Announce protest/appeals procedures and timeframes.
Resolve protests and appeals	02/20/01	
Publish Final Plan	03/15/01	Publish and post on internet.

3. Planning Team

- Pat Johnston - BLM Wetlands Manager
- Scott Duckett - City of Eugene Wetlands Manager
- Steve Gordon - Program Manager - Lane Council of Governments
- Jeff Kreuger - Landscape Architect - Lane Council of Governments
- Joseph Williams - BLM Senior Outdoor Recreation Planner

4. The Planning Process

- Define Area Boundary - 3/2000
- Identify Issues - 10/2000
- Propose Management Actions - 10/2000
- Identify Alternatives - 11/2000

- Form Interdisciplinary Team - 11/2000
- Assess Actions and Alternatives (NEPA compliance) - 12/2000
- Public Review Process - 12/2000 to 2/2001
- Record of Decision - 3/2001
- Plan Implementation - 3/2001 - 2011

Appendix B. Environmental Assessment

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OR 53041, Amend

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
EUGENE DISTRICT OFFICE**

West Eugene Wetlands Recreation, Access and Environmental Education Plan

**ENVIRONMENTAL ASSESSMENT NO. OR-090-01- 8
(Revised June 14, 2001)**

I INTRODUCTION

A. Need for the Proposed Action

The West Eugene Wetlands covers over 8,000 acres of mixed public and private ownerships that are influenced by management actions that occur on the roughly 2,200 acres of B.L.M., City of Eugene, ODOT and lands dedicated to the enhancement and management of wetlands resources. Management of this wetlands area has been a loosely coordinated, often piecemeal effort that does not always provide a comprehensive or inclusive approach to management of wetlands goals and values as expressed in the West Eugene Wetlands Plan of 1992. The increasing use of the wetlands for public recreational and educational uses, including the continuation of the Amazon/Fern Ridge Bike Path toward Fern Ridge Lake, has made it apparent that a reasoned approach to managing public recreation, access and education activities within the wetlands is necessary. The West Eugene Wetlands Recreation, Access and Environmental Education Plan is the effort to provide coordinated, consistent management of the public uses of the wetlands and the resources therein. This Environmental Assessment addresses the anticipated effects of implementing that plan.

A major development feature within the plan is the Amazon/Fern Ridge Bike Path continuation through the wetlands. The portion of this bike path right-of-way between Terry Street (south) and the railroad was previously assessed under Environmental Assessment No. OR090-EA-96-31, which is incorporated herein by reference.

In December, 2000, the Bureau of Land Management received a right-of-way application from the City of Eugene to construct and operate a bicycle/pedestrian path across public land located in SE¼NE¼, NE¼NW¼, N½SE¼, SE¼SE¼, Section 29, Township 17 South, Range 4 West of the Willamette Meridian. The lands are more particularly described in the attached Appendix C. The proposed path is an extension of an existing path which was fully analyzed in Environmental Assessment No. OR090-EA-96-31. The general location of the proposed path, approximately 400 acres of public lands and City of Eugene lands, has recently been the subject of a wetland restoration project sponsored by the City of Eugene and the U. S. Army Corps of Engineers, known as the Amazon Creek 1135 Project. The wetlands restoration project was designed to accommodate the proposed bicycle/pedestrian path. This Environmental Assessment will analyze the impacts of the specific route and design of the proposed bicycle/pedestrian path where it crosses public lands administered by the Bureau of Land Management.

B. Conformance with the Land Use Plan

The Bureau of Land Management, Eugene District, officially adopted the West Eugene Wetlands Special Area Study Plan as the land management plan for those lands acquired with Land and Water Conservation Funds for the West Eugene Wetlands Project on March 23, 1993. The proposed action is consistent with the adopted plan.

C. Relationship to Statutes, Regulations, or Other Plans

Management of the project area is not within the scope of the Record of Decision and the Standards and Guidelines of the Northwest Forest Plan (U.S. Dept. Agric. & U.S. Dept. Interior 1994). The proposed action complies with the Eugene District Record of Decision and Resource Management Plan (United States Bureau of Land Management 1995).

II. PROPOSED ACTION AND ALTERNATIVES

A. Proposed Action

The Proposed Action is to implement those actions listed in Part III - The Management Plan of the WEW Plan.

The management plan includes a number of individual management actions designed to provide resolution to 3 Major Issues (see Part III) developed with and through public participation in the planning process. For each Major Issue, a set of possible resolutions or management actions was identified. From the possible management actions, a set of actions which in combination best resolved the issues was selected.

The management plan includes actions which represent changes in degree, approach to and intensity of the B.L.M.'s recreation management direction or policy within the WEW, and identifies the support facilities, staffing, cooperating relationships, and other actions needed to implement the plan.

With the exception of the Fern Ridge/Amazon Bicycle Path, this environmental assessment does not address the environmental impacts associated with construction of individual facilities where major surface-disturbing actions may occur. Each major facility development surface disturbing project will require a separate additional environmental assessment after project and construction plans are developed.

It is proposed that the wetlands recreation, access and educational functions be managed consistently with 4 visitor management areas (VMA) as described below (and in further detail within the plan document):

Visitor Management Area 1.

Within VMA 1. protection of natural and cultural resources would be emphasized, however concentrations of visitors and the imprint of human use would be apparent. These areas would contain some on-site controls (such as fencing) designed to protect cultural and / or other resources.

Visitor Management Area 2.

VMA 2. actions are designed to orient and inform visitors while they are still within the transition area between urban or rural development and the semi-primitive parts of the WEW. The proposed orientation, guide, regulatory and interpretive signs and contact stations should provide for a better informed visiting public which would reduce problems due to lack of preparedness and provide opportunities to increase their knowledge of the area's natural and cultural resources and appropriate behavior within the WEW's various environments. Visitors who do not have the ability or desire to experience the more primitive parts of the WEW would have the opportunity to learn about the area's natural and cultural features, as well as B.L.M.'s management programs, from static displays, brochures and contact with B.L.M. personnel and volunteers.

Visitor Management Area 3.

VMA 3. would provide a subtly controlled opportunity for visitors to learn about and experience the area. Provision of trails and interpretive stations will help protect the fragile ecosystem from uninformed specimen collection or other types of abuse. Provision of hardened parking areas and other intensive use oriented facilities would protect this area's riparian sites also. Visitor safety would also be enhanced through the combination of physical structures and informational services.

Hiking trails would be planned and constructed to avoid special habitats and cultural sites. Parking areas and intensively used developments would be located to minimize impacts upon sensitive resources. Visitor safety would be enhanced through the provision of planned facilities and avoiding dangerous locations. Information would be disseminated through personal contacts, signing, maps and brochures.

Visitor Management Area 4.

VMA 4. would provide a highly structured opportunity for students and visitors to study about and work on the wetlands various opportunities. This area would be substantially or totally modified to accommodate the wetlands' research, teaching, administrative and maintenance functions. Also, this area would contain facilities for use by visitors, staff and students, including but not limited to vehicle parking, toilets, interpretive and educational classrooms, etc.

Total Area

Many of the proposed management actions affect the total WEW and are designed to improve visitor experiences while protecting the natural environment, cultural resources, and improving the human relationships between visitors, the managing agency, and the local community. Conflict reducing measures include designing roads and trails to reduce the likelihood of visitor trespass, or increasing B.L.M. and volunteer presence to enhance the opportunity to contact and inform visitors. Both emergency services and law enforcement would be enhanced through better cooperation with local agency providers. Potentially deleterious impacts associated with commercial services would be controlled and mitigated through a permit system. Impacts from excessive visitor use or use of fragile sites would be controlled by limiting numbers of visitors and directing them away from fragile sites or habitats. Cooperating relationships with volunteer organizations, other agencies and groups would help reduce total costs for projects and services while improving resource protection and public services. Restrictions on fires would help reduce the probability of disastrous wildfire during high fire danger periods.

The proposed action includes the issuing of a right-of-way grant to the City of Eugene for a perpetual term pursuant to the authority of Title V of the Federal Land Policy and Management Act of October 21, 1976 (43 U.S.C. 1761), subject to the terms and conditions of 43 CFR 2800 and those additional stipulations in the attached Exhibit B. The right-of-way grant would authorize the construction, operation and maintenance of a bicycle/pedestrian path, including two bridges, over public domain land located within the West Eugene Wetlands. The requested right-of-way is approximately 6,968 feet in length, and 40 feet in width with an additional 20 feet (10 feet on either side) of temporary width for construction activity and occupies 6.4 acres, more or less, of public land.

The bike path is proposed to be an eight-inch thick cement walkway. A 20' wide footprint includes the path and a skirt composed of soil or crushed rock. All construction activities (including stockpiling of materials) would take place on ground that has previously been disturbed and within a designated right-of-way. The current project footprint follows the existing, seasonally-used dirt road, passes onto an existing levee, and then passes onto ground previously disturbed as part of the 1135 wetland restoration project. The proposed project would extend a bike path 1.4 miles from Terry St. (where it currently ends) to the intersection of Greenhill and Royal Ave. The bike path would be constructed to the current grade of the seasonal road with no additional build-up. The City of Eugene proposes to seed the edges with native upland/wet prairie species including *Elymus glaucus*, *Deschampsia cespitosa*, *Hordeum brachyantherum*, and *Agrostis exarata*. The bike path would be built in segments. Construction of the bike path would take place from May to November 2001 and 2002 when soils are typically dry. No construction would occur from May to July 1 in the Oxbow West site during the flight and egg laying season of the Fender's blue butterfly. When completed, the path would be lighted at night for public safety. Any required mitigation measures from the U.S. Fish and Wildlife Service would be incorporated into the project implementation.

Below is a list of design features to reduce potential affects to listed species (provided by the City of Eugene in response to USFWS queries and suggestions). Design features were added by BLM resource specialists to address erosion, sediment and soil disturbance concerns, western pond turtle concerns, and noxious weed / nonnative vegetation concerns. These measures are part of the proposed action.

B. Design Features of Proposed Action to Reduce Potential Affects to Listed Species:

1. During Construction (2001-2002):

Concern: Individuals of Fender's blue butterfly could be killed if construction were to occur during the flight and egg-laying period of the butterfly (May - July).

Design Feature 1 - Avoid working in the Oxbow West site until after July 1, 2001. The Oxbow West site is described as the west levee top between S. Terry Street and the rail road to the north.

Comments: The City of Eugene anticipates that work on the Fern Ridge Bike Path project will not start before July 1, 2001. In the event work begins sooner than anticipated, the City would direct the contractor to avoid working or traveling with motor vehicles in the area.

Design Feature 2 - Avoid working in the Oxbow West site between April 15, 2002 and July 1, 2002. "Working" includes regular or frequent vehicle traffic or self-mobilizing machinery.

Comments: This would be written into the contract as a requirement before the contract is advertised and awarded. It is anticipated that the project would take two years to construct and the contractor can complete work in other areas during this closed period.

Concern: Butterflies could mistake artificial lighting for a rising sun (particularly in morning hours) and may fly toward the lights.

Design Feature 3 - (Hammond, 2001; butterfly expert, The Nature Conservancy): Install lights greater than 70 feet away from the lupines (and butterflies), or direct the main beam of lights away from the lupine plants.

Comments: Along the entire length of the bicycle path extension, the beam would be directed at pavement. Three sides of each light would have light shields. The minimum spacing between lights is 150 feet. In the area of concern, flags would be placed prior to the installation of lights to guide contractors in placing lights as far from the lupine plants as possible.

Concern: Potential change in hydrology in the area of Kincaid's lupine due to construction of the bicycle trail.

Design Feature 4 - Construct bike path subgrade and finished surface to avoid impacting surface hydrology. For the stretch of the path immediately adjacent to the Kincaid's lupine and Fenders blue butterfly populations, the finished surface would match the existing surrounding grade. Culverts would be placed as needed to allow for proper drainage.

Comments: The existing surface elevation of the gravel levee top is higher than surrounding areas and is much higher in certain areas. There is currently no surface flow from the vicinity of the lupine and butterfly population that passes through the bike path alignment except for existing culverts that are far below the grade (several feet). This evaluation was confirmed by the Eugene District BLM hydrologist and further supported during a field visit by a US Fish & Wildlife Service botanist.

Concern: During construction activities, large construction vehicles could inadvertently destroy plants and butterfly habitat while moving about the area.

Design Feature 5 - Protective fencing and restrictive signage would be placed along the boundary of the work area to ensure that no vehicles or equipment leave the designated work area.

Comments: The City of Eugene's construction inspector would be on site daily and would monitor the protective fencing and signing. Black silt fencing installed to meet ground level with no trenching or earth movement would be installed with orange construction fencing placed 5 feet behind the silt fence. Signs reading "STOP - DO NOT ENTER" would be placed on lathe stakes every 50' in front of the black silt fence as an additional measure to ensure no trespass during construction. Contractor awareness training would take place prior to construction. The foreman would check the condition of the fence and report any problems immediately. West Eugene Wetlands biologists would bio-monitor regularly (daily during construction in the Oxbow West site).

Concern: Heavy textured soils have low strength properties when wet.

Design Feature 6 - Construction of the bike path would take place from May to November 2001 and 2002 when soils are typically dry. No construction would occur from May to July 1 in the Oxbow West site.

Concern: On site erosion and potential for sediment delivery to waterways from construction sites.

Design Feature 7 - On site erosion and potential for sediment delivery to waterways from construction sites would be minimized by use of sediment control structures (i.e. straw bales, silt fencing).

Concern: Excessive disturbance to wetlands adjacent to the bike path due to construction activities.

Design Feature 8 - Area used as construction corridor for bike path construction would be limited to the 40 feet right of way width with an additional 20 feet (10 feet on either side) of temporary width for construction purposes.

Concern: Disturbance to the western pond turtle caused by people moving along the new pathways during both construction and subsequent utilization of the bike path.

Design Feature 9 - Surveys for western pond turtles and their nests would occur within and adjacent to the proposed construction area of the bike path extension. Any nest sites found would be protected during this project (either by exclosures or by removing eggs, hatching in captivity and releasing back to the wetlands).

Design Feature 10 - Besides their utility for preventing erosion, silt/drift fences would be used where appropriate to direct turtles away from construction activities.

Comment: Design Feature 16 below would also provide visual screens to minimize disturbance to western pond turtles.

Design Feature 11 - When construction activities occur near Amazon Creek and the A-3 Channel, basking logs would be placed upstream or downstream where appropriate to attract turtles away from the construction area.

Concern: The potential for the spread of noxious weeds and nonnative plants.

Design Feature 12 - To prevent the spread of noxious weeds and nonnative plants, all heavy construction equipment would be cleaned to remove mud, debris, and vegetation material prior to arriving at the project site. Heavy equipment means any equipment that has the capacity to disturb or compact soils or waterway channels, e.g., back-hoes, bulldozers, cranes, and trucks.

Comment: The City of Eugene also proposes to seed the edges with native upland/wet prairie species including *Elymus glaucus*, *Deschampsia cespitosa*, *Hordeum brachyantherum*, and *Agrostis exarata* (Design feature 17 below). This would also contribute to the prevention of the spread of noxious weeds and nonnative plants.

2. Post Construction Operating and Maintenance (2002 & beyond):

Concern: Individuals of Fender's blue butterfly could be killed if maintenance were to occur during the flight and egg-laying period of the butterfly (May - July).

Design Feature 13 - Postpone regular or periodic mowing along the bike path shoulders until after July 1st of each growing season.

Comments: The City of Eugene maintains its bike path shoulders with annual mowing along the edges of the path extending out approximately 10' from the edge of the path. A schedule is developed by the Natural Resource Maintenance Lead Worker each year for the mower operators to follow. The Natural Resource Maintenance Lead Worker was present during the field visit and would design all future scheduling to begin after July 1st in the area of the lupine and butterfly.

Concern: The increased access and educational opportunity provided by a bicycle trail would increase the potential for pedestrian traffic into sensitive species locations.

Design Feature 14 - Avoid specificity regarding locations and species identification in any interpretive signage placed in the area.

Comments: The City of Eugene and the Eugene District BLM anticipate placing interpretive signage along the Fern Ridge Bike Path at designated locations. No signage is planned for the area immediately adjacent to the path but signage may be installed at other locations with the area defined above. Under no circumstances

would the location of a specific population of sensitive plant or animal species (including the lupine and butterfly) be specifically identified on the signage so that a reader could use the information to locate a sensitive plant or animal community.

Design Feature 15 - Avoid outdoor education activities that could indirectly or unintentionally harm the species.

Comments: The City of Eugene and the Eugene District BLM would not support any public education or tour group activity that could have an impact on the lupine or butterfly (i.e., no “butterfly” nets would be used as an education activity and no tours would occur off of the path in this location).

Design Feature 16 - Appropriate (i.e., non-invasive) barrier shrubs or trees to minimize exit opportunities by off-road bicyclists and to provide visual screens to minimize disturbance to western pond turtles would be planted as needed.

Comments: The City of Eugene or the Eugene District BLM would investigate opportunities to plant native small trees or shrubs to deter bike path users from leaving the bike path. It is not desirable however to plant the entire length of the path but there may be strategic locations that could work. One such location is the end of south Terry Street. Planting male Oregon ash trees or native hawthorne in this location could present a visual barrier and therefore deter potential off road bicyclists from attempting to navigate through the area with the lupine or butterfly.

Concern: Would the construction of the bicycle trail preclude normal expansion of listed species into areas of suitable habitat?

Comments: The construction of the bicycle trail should not preclude normal expansion of listed species into areas of suitable habitat. Geographic and man-made barriers already currently exist. For the Oxbow West site, the Amazon Creek is a barrier to east expansion and the railroad is a barrier to the north. The proposed bicycle trail on the Lower Amazon site would be constructed alongside Greenhill, Royal, and Roosevelt Avenues and the A-3 channel.

Concern: The potential for long term erosion in areas adjacent to the bike path and construction sites.

Design Feature 17 - Areas adjacent to bike path and construction sites would be promptly revegetated with appropriate native species to minimize long term erosion.

Comment: The City of Eugene proposes to seed the edges with native upland/wet prairie species including *Elymus glaucus*, *Deschampsia cespitosa*, *Hordeum brachyantherum*, and *Agrostis exarata*.

C. No Action Alternative

The No Action Alternative would be to not implement the Recreation, Access and Education Plan, including denial of the right of way application for the continuation of the Amazon/Fern Ridge Bike Path.

Under the No Action Alternative the WEW would continue to be managed under the general guidance provided by the West Eugene Wetlands Plan of 1992. The environmental and social problems identified by the public and described in the Major Issues (Part III.) of the Plan would for the most part remain unresolved because the BLM would not have sufficient planning in place (as required under Section 202, FLPMA) to address them.

III. AFFECTED ENVIRONMENT

The WEW existing environment is described briefly in Part I - Introduction of the West Eugene Wetlands Recreation, Access and Environmental Education Plan. For additional information see the references contained in the Reference section of the Plan.

A. Botany

The existing conditions are a result of a variety of land use practices, including agriculture, drainage, and industrial use. Much of the surrounding area is commercial/industrial interspersed with public land that is managed as the West Eugene Wetlands. The proposed bicycle/pedestrian trail extension would pass adjacent to a patchwork of mitigated wetlands and protected wet prairie and upland prairie habitat which includes some localized concentrations of rare plants. The proposed project area has had complete surveys for all Threatened and Endangered plants (Salix and Associates, 1996 and 1997; Weber, 1998; Marshall, 1999). The proposed path and recreation facilities described in the Recreation Access Plan would not enter into protected habitats.

The following botany affected environment section is organized according to project areas which are included in the Recreation Access Plan. The Fender's blue butterfly (*Icaricia icarioides fenderi*) is addressed within the botany discussion due to its close association with Kincaid's lupine (*Lupinus sulphureus* var. *kincaidii*).

Amazon Creek

The Amazon Creek runs adjacent to the proposed and existing bicycle/pedestrian path and facilities, flowing west and northwest through West Eugene. The creek receives storm-water runoff from the watershed south of the project area. Much of the wetland

within the channel is dominated by reed canary grass. Nonnative species tend to dominate the slopes and adjacent uplands as well. No rare plants are known to occur along the channel banks or within the creek bed. This area is not designated as critical habitat.

Since no Kincaid's lupine (*Lupinus sulphureus* var. *kincaidii*), host plant for larval Fender's blue butterfly (*Icaricia icarioides fenderi*), have been documented along the channel banks of Amazon Creek within the project area (exception: see discussion for transplanted Kincaid's lupine under "Lower Amazon Unit"), there is a low probability these butterflies occur in the immediate vicinity. Transitory butterflies may occasionally traverse this site in search of nectar sources. This butterfly is federally listed as Endangered.

Stewart Management Area

Viewing areas and walking trails are proposed for the Stewart Management Area. The landscape of this unit is diverse, including ponds, upland, wet prairie and riparian habitat, and oak/ash woodlands. Approximately five acres of wetland (Stewart and Grimes Pond and Teal Slough) received compensatory mitigation in 1995. Nonnative plant species are common throughout the management area. Penny royal and reed canary grass tend to dominate the ponds and slough, while blackberry is a dominant species in the woodland. Surveys for threatened and endangered plant species and wetland delineations have been conducted for most of the site (Stewart Pond- Salix and Associates, 1996; Stewart Woods- Marshall, 1999). No state or federally listed or proposed plant species occur within this management unit.

Since no Kincaid's lupine (*Lupinus sulphureus* var. *kincaidii*), host plant for larval Fender's blue butterfly (*Icaricia icarioides fenderi*), have been documented at this site, there is a low probability these butterflies occur in the immediate vicinity. Transitory butterflies may occasionally traverse this site in search of nectar sources. This butterfly is federally listed as Endangered.

Oak Hill Management Area (North Greenhill Ashgrove, Greenhill Prairie, Oak Hill)

This area has proposed walking paths, parking, and a viewing area. The management area contains an ash grove, remnant and restored wet prairie habitat, and upland/oak woodland habitat. Four BLM Special Status plant species occur at the Greenhill site within the Oak Hill Management Area: Federally-listed Endangered Bradshaw's desert-parsley (*Lomatium bradshawii*), the Federally-listed Endangered Willamette daisy (*Erigeron decumbens* var. *decumbens*), and two Species of Concern (Bureau Sensitive and Oregon State Listed), white top aster (*Aster curtus*), and shaggy horkelia (*Horkelia congesta* spp. *congesta*). A 1999 census of natural populations documented 79 plants of *Lomatium bradshawii*, 132 plants of *Horkelia congesta*, 372 crowns of *Erigeron decumbens* var. *decumbens* (1999 WEW Annual Report) and 5.9% & 36.3% *Aster curtus* within designated macro-plots. Greenhouse-grown plants of all of these sensitive

species have also been transplanted into a central location in the prairie restoration. An Environmental Assessment (OR090-96-21) was prepared for wetland restoration activities which occurred on this site.

Greenhouse-grown plants of the Federally-listed Threatened Kincaid's lupine (*Lupinus sulphureus* var. *kincaidii*) have been transplanted at this site in the restored wetland. Kincaid's lupine serves as host plant for larval Fender's blue butterfly (*Icaricia icarioides fenderi*), however, this federally Endangered species has yet to be documented here. Transitory butterflies may occasionally traverse this site in search of nectar sources and hopefully will reestablish within the lupines.

Danebo Management Area (BLM Wetland Field Office, Isabelle, Danebo, Willow Creek, Balboa, Beaver Run, Oxbow West, Oxbow East)

– The BLM Wetland Field Office site is a proposed location for an Environmental Education Center. Historically the site was used for agricultural purposes. Both upland and wetland sections of the site have received significant prior disturbance. The wetland on site was previously impacted by the channelization of Amazon Creek, and was later restored in 1997. A wetland delineation was conducted in 1996 (Salix and Associates), and existing conditions for the mitigated wetland area at this site are described in detail in the West Eugene Wetland 1998 Annual Report. High-use facilities (offices, parking, storage) are currently present on the upland section. One plant species of interest at the site is the annual, Howell's montia (*Montia howellii*), which is growing in the gravel parking lot of the field office. Between 150 and 200 plants were located in a 1997 survey. This species has no state or federal status.

– Existing vegetation and rare plants for the Isabelle site were documented in wetland delineation and rare plant surveys conducted by Salix and Associates. Wetland restoration and enhancement took place in 1997-1998 on approximately six acres. A single patch (500 ramets) of white top aster was located in a 1996 survey. Follow-up plant surveys and monitoring of the restoration have been conducted (1999 Annual Report; Marshall, 1999). Greenhouse-grown plants of the Federally-listed Threatened Kincaid's lupine (*Lupinus sulphureus* var. *kincaidii*) have been transplanted into the upland section of the site. Surveys for threatened and endangered plant species were also conducted at Danebo and Willow Creek sites (Salix and Associates, 1996; Marshall, 1999). Wetland restoration activities have occurred on approximately two acres at Danebo and four acres at Willow Creek.

Kincaid's lupine serves as host plant for larval Fender's blue butterfly (*Icaricia icarioides fenderi*), however, this federally Endangered species has yet to be documented here. Transitory butterflies may occasionally traverse this site in search of nectar sources and hopefully will reestablish within the lupines.

– Continuation of a walking trail is proposed for the Balboa / Beaver Run site. Historic conditions are described in detail in the Environmental Assessment OR-090-98-26 prepared for the mitigation of over 15 acres of wetland habitat in this project area. Surveys for threatened and endangered plant species have been conducted (Weber, 1998). Protected species at the site include white top aster, Willamette daisy, and shaggy horkelia. A 1999 census documented 394 crowns and 1349 flower heads of Willamette daisy within three macro-plot areas at Balboa. Several greenhouse-grown plants of Willamette daisy were transplanted to the restored wetland area following construction of the foot path levee. Eight patches of white top aster are known from the Balboa site with total estimate of 6,930 stems (1999 Annual Report). The continuation of the walking path in relation to sensitive species would be evaluated in a separate environmental assessment, as details for this trail are not outlined in the proposed action.

– Oxbow West: The proposed bike trail extension would be constructed adjacent to the Oxbow West site on a seasonally-used dirt road (between Oxbow West and Amazon Creek). While the area is more or less removed from the commercial district and no lighting currently exists in the vicinity of the proposed bicycle trail, the northern section of the site is bordered by an active railroad and is exposed to intermittent light, vibrations, and wind from passing trains.

Surveys for threatened and endangered plant species have been conducted (Weber, 1998). Kincaid's lupine, Willamette daisy, white top aster, and shaggy horkelia occur at this site. A historic population of Bradshaw's desert-parsley has been reported for this area, but rare plant surveys of this site in 1998 did not document the presence of *Lomatium* (Oxbow West- Weber, 1998).

Kincaid's lupine and Willamette daisy have received extensive baseline monitoring (Kaye, 1999 and 2000). In 2000, 2912 plants with 17858 inflorescences were documented for Willamette daisy, and 9455 leaves and 253 inflorescences were documented for Kincaid's lupine. (Due to the clonal nature of Kincaid's lupine, leaves are censused rather than individual plants.) A 1998 census documented 7026 ramets of white top aster (Interagency Conservation Strategy, 2000). In addition, eggs of the Federally-listed Endangered Fender's blue butterfly, *Icaricia icarioides* ssp. *fenderi*, have been documented to occur on the leaves of this population of Kincaid's lupine.

The occupied habitat for Kincaid's lupine is moderately degraded with respect to native vegetation as a result of prior agricultural disturbance and infestation by exotic grasses and shrubs. However, it retains native components that may form the basis for site restoration and is being actively managed at this time. Restoration of this and adjacent sites to improve habitat for Kincaid's lupine and Fender's blue butterfly may contribute to the recovery of these species in the southern Willamette Valley.

The Oxbow West site has been monitored for both lupine and butterfly densities annually since 1999, and monitoring is anticipated to continue in the future. The two years of sampling indicates a stable to increasing butterfly habitat (lupine plants) and an increasing butterfly population. Twenty five Fender's blue butterfly eggs were recorded during monitoring in 1999, and 701 eggs were recorded in 2000 (Kaye, 1999, 2000).

The project area does have infestations of noxious weeds and nonnative species including reed canary grass and nonnative, invasive blackberry. Current management includes removal or reduction of noxious weeds and encroaching woody species. Maintenance activities include mowing, hand removal, and prescribed burns. The dramatic increase in butterfly egg abundance is thought to be the result of 1999 BLM habitat enhancement activities, primarily removal of trees and shrubs from lupine habitat. Other butterfly habitat enhancement projects underway in the project area include augmenting adult and larval resources with transplants of appropriate nectar species and Kincaid's lupine.

The bike trail would pass near (>25 meters from) Kincaid's lupine. A biological assessment was submitted to the USFWS regarding the proximity of Kincaid's lupine, Willamette daisy, and Fender's blue butterfly populations to the construction zone and proposed bike path at Oxbow West. The BLM received a Biological Opinion from the U.S. Fish and Wildlife Service on June 12, 2001, completing consultation.

– Oxbow East: No facilities or trails are currently planned for the Oxbow East area. Surveys for threatened and endangered plant species have been conducted (Weber, 1998; Marshall, 1999). No Federally-listed Threatened or Endangered species occur at the Oxbow East site.

Lower Amazon Unit:

The majority of the bicycle trail extension would be constructed on the Lower Amazon Unit (1135). Proposed viewing areas and bridges permitting the bicycle trail to cross over Amazon Creek and the A3 channel would also occur at this site.

Historically, the Lower Amazon site was dominated by wet prairie wetland and traversed by migrating stream channels and seasonally wet swales. By the late 1800's, most of the wet prairie wetlands on site had been converted to agricultural use, and had most recently been used for ryegrass and hay production and pasture. Major stream channelization and flood control projects in the 1950's dramatically altered the site's hydrology. A floodplain restoration project in 1999 and 2000 involved the removal of levees along the Amazon Creek system at this site and restoration of adjacent agricultural lands to native wet prairie wetlands. New levees were constructed around the project boundaries to maintain flood protection adjacent to the project area.

The proposed bicycle trail would be constructed on these recently created levees. In areas where levees are not present, the proposed trail would be primarily restricted to the upland edges of mitigated wetlands.

Salix and Associates conducted surveys for threatened and endangered plant species. 1997 surveys documented 11 plants of Bradshaw's lomatium, more than 5000 ramets of white top aster, and more than 750 ramets of Kincaid's lupine. Also, eighty individual greenhouse-grown plants of Kincaid's lupine were transplanted to the west bank of Amazon creek, 1135 Project. Preliminary results indicate low survival (complete data not available) and aggressive encroachment by nonnative plant species to this transplant site (Kaye, 2001 and personal communication).

Kincaid's lupine serves as host plant for larval Fender's blue butterfly (*Icaricia icarioides fenderi*), an endangered species. To date, no specimens have been found at either the natural population or transplant site of the Lower Amazon area. Transitory butterflies may occasionally traverse this site in search of nectar sources and hopefully will reestablish within the lupines. The absence of Fender's blue butterfly has been confirmed through 2 years of monitoring natural populations which included inspecting the underside of each lupine leaf for the presence of butterfly eggs. Butterflies are not likely to use the transplanted lupine plants during the construction period since the plants are limited in number, are still immature, and are obscured by weeds.

B. Wildlife

The following wildlife affected environment section is organized according to project areas which are included in the Recreation Access Plan. The Fender's blue butterfly (*Icaricia icarioides fenderi*) was addressed within the botany discussion due to its close association with Kincaid's lupine (*Lupinus sulphureus* var. *kincaidii*).

Amazon Creek

The Amazon Creek runs adjacent to the proposed and existing bicycle/pedestrian path and facilities, flowing west and northwest through West Eugene. The creek receives storm-water runoff from the watershed south of the project area.

Much of the wetland within the channel is dominated by reed canary grass and nonnative vegetation tends to dominate the slopes and adjacent uplands as well. Amazon Creek is habitat and an important migration corridor for the western pond turtle (*Clemmys marmorata*) which has been documented within the channel and the immediate vicinity.

Reed canary grass and other dense vegetation can hinder movement of these turtles while traveling overland to nest or overwinter. Introduced bullfrogs in the area are a major predator of hatchling turtles.

This turtle has been petitioned to be listed as Threatened under the Endangered Species Act and is on the State and the Bureau's Sensitive Species List.

Stewart Management Area

Although much of the standing water in this area dries up during the summer, some year-round water does exist in ponds, sloughs and the A-3 Channel which provide habitat for the western pond turtle (*Clemmys marmorata*). To improve conditions for the turtle and bolster the population, juvenile turtles have been released in the Stewart Management Area and basking sites as well as nesting substrates (clay soils) have been brought in.

Because of continuing mitigation efforts and enhancement of the seasonal ponds, this management area provides improved wintering habitat for numerous waterfowl and shorebirds. The mowing regime that has been in place would continue to enhance wintering habitat for these species.

Oak Hill Management Area

Because of the absence of year-round water, the Oak Hill management area does not provide permanent aquatic habitat for the western pond turtle (*Clemmys marmorata*).

Scattered native oaks provide habitat for the acorn woodpecker (*Melanerpes formicivorus*), and the State sensitive western silver grey squirrel (*Sciurus griseus*).

Danebo and Lower Amazon Management Areas

Amazon Creek runs adjacent to the proposed and existing bicycle/pedestrian path and facilities, flowing west and northwest through these management areas. The proposed path crosses both Amazon Creek and the A-3 Channel. These areas provide habitat for the western pond turtle (*Clemmys marmorata*). Although the name implies these are turtles of ponds and still water, they are also at home in flowing streams and travel overland to nest and overwinter.

Wildlife Species (Common to all areas of the West Eugene Wetlands Planning Area)

Two locations for the bald furry snail (*Vespericola*, unnamed species) have been documented in the West Eugene Wetlands. It is an inhabitant of native prairie and may be negatively affected by invasive exotic species. Little else is known about these snails. They are presently on the Oregon Natural Heritage Program's List 1, which qualifies them as Bureau Sensitive.

The dusky Canada goose (*Branta canadensis occidentalis*) and a federally listed wildlife species, the bald eagle (*Haliaeetus leucocephalus*) may occur within the West Eugene

Wetlands planning area at certain times of the year. The West Eugene Wetlands planning area does not provide suitable nesting habitat for these species although there is a remote chance these species may briefly forage in the area.

Scattered native oaks in the West Eugene Wetland areas provide habitat for the acorn woodpecker (*Melanerpes formicivorus*), and the State sensitive western silver grey squirrel (*Sciurus griseus*).

Introduced animal species are common within the entire West Eugene Wetlands, and for the most part have adverse ramifications for the ecosystem here. The major introduced species found in the Wetlands are: the opossum, nutria, bullfrog, released pet turtles, starling, house sparrow, pheasant, carp, and free-roaming domestic or feral cats and dogs.

A more inclusive list of wildlife species occurring in the Wetlands can be found in Appendix D, please refer to that list for further wildlife listings.

C. Soils

The affected environment / soils section addresses the proposed action by Visitor Management Area (VMA) as described in the Recreation, Access and Environmental Education Plan.

VMA 1. Protected Habitats

The majority of this VMA contains poorly drained hydric soils. Dayton and Natroy, both hydric, are the predominant soils which occur where wetlands have been identified in west Eugene. Dayton soils occur as a large expanse in the westernmost part of the project area, roughly north of west 11th and west of the Amazon Channel. Natroy is in wide swaths along the Amazon Channel, Amazon Creek, and Willow Creek. These interior areas have been the focal point for the restoration of native wetland plant communities. This has included the stripping of existing nonnatives (i.e. ryegrass, reed canary grass), the restoration of original overland flow patterns, and machine site preparation prior to sowing with natives. These alterations have had substantial impacts to surface soils and seed bed, but the distinctive infiltration characteristics of the hydric soils remain intact.

VMA 3. Human Interface

The Stewart Pond area has more variable topography and drainage characteristics, therefore a mix of soil types occur. Mapped soils (SCS Lane County Soil Survey, 1987) include the poorly drained hydric soils, Awbrig and Natroy. These deep silty clay loams occupy flat to concave areas (0 to 2% slopes) in drainageways and on stream terraces. The somewhat poorly drained Dupee series (3 to 20% slopes) occurs in depressional

areas on alluvial fans. The moderately well drained Coburg is associated with low stream terraces. The well drained Salem gravelly silt loam is on stream terraces.

VMA 4. Bike Path and Facilities

The southern segment of the proposed bike path (from Wetlands office west and north to bridge crossing of Amazon Creek) crosses soils mapped as Natroy silty clay loam. Natroy is a poorly drained hydric soil in the Vertisol soil order. Properties of shrink swell clay dominate Vertisols, which crack to the surface in the dry season and are self-churning. The bulk of this proposed segment currently exists as a graveled tread located on an upland levee on the west side of Amazon Creek. A segment between the proposed bridges, approximately 850 feet, would be the only area of new construction, where levee tread does not currently exist. This crossing of “undisturbed” Natroy soils will necessitate additions of baserock and material to elevate the tread.

The northern segment of the proposed bike path (north and west from A3 channel) crosses Dayton and Holcomb soils. Holcomb silt loam is somewhat poorly drained and not hydric. The bulk of this alignment also utilizes the elevated levee that was created during previous flood control projects and reshaped in more recent channel restoration projects. Because of these impacts, including surface soil additions and profile mixing, the levee soils no longer function as hydric sites.

The current B.L.M. Wetland Field Office is the proposed location for an Environmental Education Center which would require an additional environmental assessment. The upland portion of the site is located on a convex position on foothills adjacent to wetland. Soils at this location are not hydric. Bellpine silty clay loam is a moderately deep, well drained soil. This site has previously been committed to structural development with the corresponding loss of site productivity and natural infiltration characteristics.

D. Hydrology

The proposed action would take place along Amazon Creek in the Long Tom Watershed. Amazon Creek is on the DEQ’s 303(d) list of water quality limited water bodies from the mouth to the head waters. It is listed for bacteria and dissolved oxygen. The average annual rainfall is 49 inches. The majority of the precipitation falls from November through March. The soils in the project area are dense with a high clay content. Water passes through these soils relatively slowly, creating shallow ephemeral ponds. A portion of the bike path would be located on an existing road that runs along the diversion canal. The elevation of this road surface is higher than the adjacent wetlands. The rest of the bike path would be located in an existing rye grass field. The facilities would be constructed on upland sites that have been previously disturbed.

E. Cultural Resources

The West Eugene Wetlands is adjacent to areas known to contain cultural resource values. Because terrain and habitat within the Wetlands boundaries is similar to that of the adjacent areas containing known cultural values it can be reasonably assumed that cultural values are present within the Wetlands. Proposed actions with the potential for surface disturbance will require cultural surveys prior to project initiation. The only exceptions to this being situations where proposed actions occur in areas where previous disturbance is such that no *in situ* cultural materials might reasonably be expected to remain. The proposed bike trail along the top of existing levees, dikes, and along existing roadways is such a situation. No cultural resource surveys are required for this action. All future actions must be considered on a case by case basis when project planning is initiated.

F. Unaffected Resources

The following resources are either not present or would not be affected by any of the alternatives: Areas of Critical Environmental Concern, prime or unique farmlands, Native American religious concerns, cultural resources, solid or hazardous wastes, Wild and Scenic Rivers, wilderness, environmental justice (minority or low income populations).

IV. ENVIRONMENTAL CONSEQUENCES

1. Environmental Consequences of the Proposed Action - Alternative A

Accept Recreation Access Plan and Implement actions listed in the Management Plan.

A. Botany: Botany section is organized by potentially affected botanical resources within the project area.)

General Botany

A positive effect of the Proposed Action for all sensitive plant species is that improved access and environmental education is likely to result in increased appreciation for wetland communities and rare species, which can lead to increased stewardship. Continued annual monitoring of sensitive plant species would provide information for determining whether or not additional provisions are necessary. The installation of lighting along the bicycle trail extension is not expected to have adverse effects on sensitive plants or any other botanical resources. The effects of future actions on transplanted sensitive plant species at Isabelle, Balboa/Beaver Run and Greenhill would be evaluated in a separate Environmental Assessment.

Threatened and Endangered Plant Species:

Willamette daisy

The proposed action may affect, but is not likely to adversely affect the Federal Endangered species Willamette daisy (*Erigeron decumbens* var. *decumbens*). The

USFWS issued its Biological Opinion on June 12, 2001, concurring with the above effects, completing consultation. All required mitigation measures in this Opinion would be implemented. No direct impacts to Willamette daisy are anticipated to occur as a result of construction of this bicycle path extension. All anticipated construction activities would be restricted to the existing disturbed right-of-way where no listed species occur. The only population of Willamette daisy that is within the proposed action area for this is the population at Oxbow West. Future actions at Greenhill and Balboa would be evaluated in a separate environmental assessment.

Increased human usage of the Oxbow West site could have potential indirect adverse effects, particularly if visitors to the wetlands wander off of the trail and accidentally trample plants. The Oxbow West population of Willamette daisy is a considerable distance from the proposed construction activities, and is further separated from the proposed bike trail area by a thicket of ash trees and a swale. The band of ash trees spans the entire length of the megapopulation, terminating to the north at the railroad tracks. Additional barriers, such as fencing or signs, would be erected if necessary (as described on pp.16, 23 [Action 2.21] , and 26 [Action 3.11] of the Recreation Access Plan).

Bradshaw's desert-parsley - *Lomatium bradshawii*

The Proposed Action is considered to be no effect on the Federal Endangered *Lomatium bradshawii*. Repeated botanical surveys in the vicinity have not resulted in documented presence of this species in the areas that would potentially be impacted.

Kincaid's lupine - *Lupinus sulphureus* var. *kincaidii*

The proposed action may affect, but is not likely to adversely affect the Federal Threatened species *Lupinus sulphureus* var. *kincaidii* at the Oxbow West site. The USFWS issued its Biological Opinion on June 12, 2001, concurring with the above effects, completing consultation. All required mitigation measures in this Opinion would be adhered to. The Lower Amazon population is out of the action area. All anticipated construction activities would be restricted to the existing disturbed right-of-way where no listed species occur.

Habitat restoration activities on BLM lands are actively improving native habitat quality, thus, decreasing the "patchiness" of fragmented habitat. Consequently, it can be assumed that insect/lupine densities would increase in these areas as restoration actions continue, making suitable habitat for lupine and butterfly more common.

The proposed bike trail could negatively impact the restoration of upland fields and wet prairie adjacent to the route by constraining and complicating management of these sites. Alternatively, the improved access to the area could facilitate management of these areas.

The bike path would provide increased access to fields where Kincaid's lupine currently occurs, which is expected to result in increased use of these fields by humans and their pets using the path. Potential adverse impacts include intentional or inadvertent destruction of plants by trampling, removal or vandalism of markers and flags used for research and management of the sites.

Construction vehicles can transport plant seeds and vegetative material. Kincaid's lupine habitat may be adversely modified by introduction and spread of noxious weeds and nonnative plants. Seeding of disturbed areas with native species and washing of equipment prior to entering the site would reduce the potential of introduction and spread of noxious weeds and nonnative plants.

Species of Concern:

White top aster and shaggy horkelia - *Aster curtus* and *Horkelia congesta* spp. *congesta*

The Proposed Action would not have harmful effects on the two Species of Concern (*Aster curtus* and *Horkelia congesta* spp. *congesta*). These species would benefit from the same mitigation measures (fencing and signs) designed to protect federally listed species.

Amazon Creek

The construction of the bike trail would not result in negative impacts to Amazon Creek vegetation. The new trail may improve access for channel maintenance and management of invasive species.

Remnant and Mitigated Wetland habitat

The construction of the bike trail would not result in negative impacts to the vegetation of remnant and mitigated wetland habitats. The majority of the construction for proposed facilities is planned to occur on previously disturbed ground. The most diverse and highly native wet prairie ecosystems in the project area have been classified as Management Area 1 "Protected Habitat," indicating an area free from human impacts. The use of locally collected seed from native upland/wet prairie species for re-seeding the newly disturbed and exposed soils in the construction zone would help protect these habitats from opportunistic nonnative species.

B. Wildlife

Threatened and Endangered:

Bald eagle

With regards to federally listed and special status species mentioned in the Affected Environment section, the proposed actions would have no effect on the bald eagle

(*Haliaeetus leucocephalus*) and any other federally listed or proposed terrestrial wildlife species known to occur in the vicinity (except the Fender's blue butterfly).

Fender's blue butterfly

A biological assessment was submitted to the USFWS regarding the proximity of Kincaid's lupine, Willamette daisy, and Fender's blue butterfly populations to the construction zone and proposed bike path at Oxbow West. The proposed project would may affect, and is likely to adversely affect the Fender's blue butterfly (*Icaricia icariodes fenderi*). The USFWS issued its Biological Opinion on June 12, 2001, concurring with the above effects, completing consultation. All required mitigation measures in this Opinion would be implemented.

Adult migration activities may be affected by the operation of heavy equipment close to the lupine population, and some mortality of adult butterflies actively seeking nectar and egg-laying sites could occur due to construction activities and maintenance activities outside of the immediate lupine area. Design features to address these concerns are described below and on pages 60 - 65 of the Environmental Assessment.

Ninety five percent (95%) of the Fender's blue butterflies in a population are likely to occur within 10 meters of lupine plants (Schultz, 1997), suggesting that much fewer than 5% would occur in the project area (which is 25 meters from the lupine plants). Due to naturally occurring mortality of egg and larval stages and the restricted construction window, potential mortality during construction in 2001 and 2002 is expected to be less than 5%. Loss of individual Fender's blue butterflies resulting from bike path use and maintenance would be less. It is anticipated that adult migration and egg laying would continue once this facility becomes operational.

Experimental data indicates that adult Fender's blue butterflies do not require habitat corridors and are able to "leap" from one habitat island to the next within a 2 km radius (Shultz, 1997), thus the physical separation from other lupine sites imposed by a bicycle path may not pose a concern.

No direct disturbance to the Kincaid's lupine population is anticipated. Permanent fencing would be placed to discourage bicycle or pedestrian travel into occupied threatened or endangered plant or animal habitat. No disturbance from any activity associated with this construction would occur outside the designated right-of-way. To further reduce potential adverse affects to the butterfly, no construction or maintenance activities would occur from May to July 1 in the Oxbow West site during the flight and egg laying season of the butterfly.

The proposed lights, if installed, may have an effect on butterflies, particularly in the early morning hours. The butterflies may mistake these lights as the rising sun and fly towards them; this could disrupt their daily behavior and make the butterflies more susceptible to predation by bats. The installation of lights greater than 70 feet away

from the lupine plants (and butterflies) would reduce impacts or result in no impact to the butterfly (pers. com. Hammond, 2001). Directing the main beams directly at the path and away from lupines, as described in the proposed action, would also be effective at reducing potential impacts.

Potential adverse impacts also include: intentional or inadvertent destruction of host plants by trampling; removal or vandalism of markers used for research and management of the sites; and increased access to sites for collectors who may illegally collect butterflies or other rare species.

Because limited project-related impacts would occur in quality nectaring areas it is anticipated that nectaring habitat for the Fender's blue butterfly would not be negatively affected over time and would recover via mitigation in the short-term. Therefore, it is not foreseen that construction of the proposed bike path or its operation as proposed would reduce species' viability as a result of short term loss of nectaring habitat.

Non - Federally Listed Species

Shorebirds and Waterfowl

As facilities including the bike path are developed there may be some displacement of these species within the wetlands. Shorebirds and waterfowl, including the dusky Canada goose (*Branta canadensis occidentalis*), may be subjected to occasional disturbances due to visitor activities attributed to the bike path. Species sensitive to such disturbances would avoid close association with such human activity, but would not be displaced out of the general vicinity.

Bald furry snail

Little is known of the bald furry snail (*Vespericola*, unnamed species), but it is likely that since it is a resident of our native wet prairies, this species would benefit from restoration endeavors. Some individuals may be inadvertently killed during construction and mitigation efforts.

Western pond turtle

If turtles have favorable habitat features they can live and reproduce in areas with frequent human visitors.

Since there will be no activities associated with the proposed bike path construction that would impact permanent standing water, effects to the western pond turtle would be limited to disruption or displacement of these reptiles in Amazon Creek and the A-3 Channel. Turtles traveling over land may also be affected. As previously mentioned, occurrence of turtles in these situations are not as common as in areas of standing permanent water.

The only substantial impact to the western pond turtle would be the visual disturbance of people moving along the new pathways during both construction and subsequent utilization of the bike path. Turtles have keen eyesight and when they are alarmed by the movement of potential predators, including humans, they will stop what they are doing or retreat into deep water.

To minimize this disruption of their activities, a visual screen of native shrubbery would be planted between the pathway and any identified locations favored by resident turtles. It is anticipated that turtles would cross the pathway and the movements of turtles would not be impeded by the physical designs of the paths, but turtles will probably do so at times when there is minimum human traffic.

To reduce disturbance and the potential of injuries to turtles during construction of the bike path extension, a temporary physical barrier, such as a silt/drift fence would be placed between construction sites and turtle habitat. This would provide a visual screen, but more importantly would direct transitory turtles away from danger areas. Additionally, basking structures such as logs would be placed up or downstream from construction activities to attract turtles away from these activities where appropriate.

Turtles do travel overland during nesting (June/July) and could be disrupted during these activities. Any nest sites found would be protected during this project (either by exclosures or by removing eggs, hatching in captivity and releasing back to the wetlands).

General wildlife

The proposed actions would not be detrimental to other wildlife species described in the affected environment. Some individuals may be inadvertently injured or killed during operations, but the overall and long term results of continued mitigation would improve habitats for these species and benefit the local populations as a whole.

Wildlife in general, may be subjected to occasional disturbances due to visitor activities attributed to the bike path. Species sensitive to such disturbances would avoid close association with such human activity, but would not be displaced out of the general vicinity.

A positive effect of the Proposed Action for wildlife is that improved and managed access and environmental education is likely to result in increased appreciation for wildlife associated with wetland communities which can lead to increased stewardship. Continued annual monitoring of sensitive wildlife species would provide information for determining whether or not additional provisions are necessary.

All other future site specific actions associated with the Recreation , Access, and Environmental Education Plan and their affect to wildlife would be considered on a case by case basis when more site specific project planning is initiated for these actions. These future actions would be evaluated in a separate environmental analysis.

C. Soils

VMA 1: Protected Habitats

There would be minimal direct or indirect effects to soils in the protected habitat areas. Hydric characteristics and long term soil productivity would be maintained. There would be no surface disturbance beyond those analyzed in earlier documents pertaining to vegetation restoration projects (EA-99-19).

VMA 3: Human Interface

Stewart Pond Area: Direct effect would be the addition of bark chips to upgrade surface of existing trails. There would be no long term effects to soil productivity or soil infiltration characteristics associated with this action. There would be no additional acreage committed to travelways beyond what currently exists.

VMA 4: Facilities, including Bike Path

Approximately 66% of the bike route would be constructed on previously altered soils that no longer exhibit the ponding characteristic of hydric soils. The direct effect of bike path construction between the bridge sites (Amazon Creek and A3 channel) would be the alteration of infiltration characteristics on approximately 2 acres of intact wetland soils (Natroy series). Indirect long term effect of bike path construction would be the loss of soil productivity on approximately 6.5 acres committed to permanent travelway. The construction area would experience some erosion from open compacted surfaces during operations. This effect would be short term and localized. Effects to water quality would be minimized by the use of on-site erosion control structures, ie. straw bales or sediment fencing. The prompt revegetation (appropriate native species) of adjacent impacted areas would prevent on site erosion and any off site effects to water quality in the long term.

D. Hydrology

The proposed bike path would be constructed on a raised road bed with culverts installed as needed to allow for proper drainage, thus there would be no impact to present hydrology in this portion of the trail.

No modifications to existing hydrology are anticipated in relation to construction or maintenance of the bike path and facilities proposed within the plan. The proposed actions would have minimal, short term and localized effects to water quality due to some possible erosion and soil disturbance during construction phases of the proposed projects. There would be no expected long term effects to water quality.

2. Environmental Consequences of the No Action Alternative B - Deny the Application for the Recreation Access Plan

Under the No Action Alternative the wetlands would continue to be managed under the general guidance of the West Eugene Wetlands Plan and Amendments.

A. Botany

The proposed bike trail could negatively impact the restoration of upland fields and wet prairie adjacent to the route by constraining and complicating management of these sites. For example, the ability to conduct prescribed burns or transport heavy maintenance equipment to sites may be reduced due to safety issues. Potential negative impacts to sites associated with complicated site management and increased human usage would be avoided through the No Action Alternative.

On the other hand, the No Action Alternative could actually limit the ability to perform future maintenance and management activities as access to these sites would not be improved. The direct effect the No Action Alternative is reduced access to public wetlands and reduced opportunities for environmental education. The opportunity to foster stewardship through increased appreciation and awareness for wetland communities through educational signs and interpretive centers as described in the Recreation and Access Plan would also not occur. An indirect effect of the No Action Alternative in relation to botanical resources is potential damage to wetland plant communities through inappropriate uses such as camping. Lack of designated areas for vehicle use could result in negative impacts to sensitive areas and species.

B. Wildlife

A result of the No Action Alternative would be continued degradation of the remaining native wetland prairie community. Lack of designated areas for vehicle and human activity and use could result in negative impacts to sensitive areas and species.

C. Soils

There would be no direct or indirect effects to soils under this alternative as no new surface disturbing activities would be conducted. There would be no alteration of distinctive hydric infiltration characteristics beyond what has occurred previously.

D. Hydrology

The no-action alternative would have no effects to the current water quality and the existing hydrology of the area.

V. CUMULATIVE AFFECTS

1. Cumulative Affects of the Proposed Action - Alternative A

The West Eugene Wetlands Plan provides general guidance for the WEW Area, and does not detail the extent or type of construction in any given site or area. The WEW Recreation and Access Plan delineates four visitor management areas, ranging from rather extensive, low development (Visitor Management Area 1, managed to be essentially free of on-site physical facilities) to areas of concentrated human use and facilities to serve them (Area 4, where paved roads, interpretive facilities, staging areas, etc., are present).

With the exception of the developed viewing sites and day use facilities, all facilities would be limited to the minimum development essential to provide services identified as appropriate for the particular area. It is the intent of the Plan to limit human influence as much as possible to those few developed sites, and manage the remainder of the WEW to assure that the natural qualities of the area receive little human modification. By designing facilities that visually merge with the surrounding environment impacts would be kept to a minimum.

All activities allowed under the right-of-way grant (proposed action) would be bound by the Additional Terms, Conditions, and Stipulations found in Exhibit B of the grant.

A. Botany and Wildlife

The proposed action would not result in a reduction of suitable habitat. The West Eugene Wetlands area is being developed as a cooperative wetlands conservation and public recreation area. Through this program the acquisition, restoration, and enhancement of wetlands in west Eugene will continue in the future. Habitat restoration activities on Bureau of Land Management lands are actively improving native habitat quality, and thus, decreasing the “patchiness” of fragmented habitat. Consequently, it can be expected that insect/lupine densities will increase in these areas as restoration actions continue, making suitable habitat for Kincaid’s lupine and Fender’s blue butterfly more common in the long term.

Most of the property immediately adjacent to the project area is land administered by the City of Eugene and the BLM. Housing developments are likely to continue to be constructed on private land in the vicinity of the action area and West Eugene Wetlands in general, though the BLM will continue to attempt to provide a substantial buffer through land acquisition.

As a result of the proposed project, noxious weeds and invasive nonnative species currently growing within the footprint of the proposed trail would be eliminated. Also improved access provided by this trail construction would allow for improved management of nonnative species which occur on the banks of the existing levees.

This project would also bring greater access to rare lupine and butterfly sites with potential negative impacts. With continuing human population increase in the Eugene

area and an increasing need for close recreational opportunities, this project, coupled with other recreation and urban growth projects, could contribute to negative impacts to Kincaid's lupine and Fender's blue butterfly as well as other federally listed and rare prairie plants. Ongoing restoration and enhancement projects may help ameliorate some of these negative impacts. The Recreation Access Plan has identified visitor management areas ranging from high use areas to areas with restricted access. Under the guidance of this plan, recreation opportunities will be coordinated in relation to sensitive plant and animal habitat to reduce probable negative impacts. The construction of this path and other public facilities in the West Eugene Wetlands may tend to concentrate human activity, thus directing many users away from sensitive sites. Consequently, this project (combined with other public facilities) would likely provide both beneficial and negative impacts to sensitive areas.

B. Soils and Hydrology

The proposed action is not expected to result in negative cumulative effects. Issuance of the right-of-way grant for the bicycle/pedestrian path would allow construction and maintenance activities to occur. These activities would cause a temporary increase in sedimentation and erosion. Effects are anticipated to be short term and minor due to required erosion control measures. This action would result in an increase in public use. Because the proposed route for the path was located in a manner to minimize wetland impacts, including hydrologic flow and flooding events, it is anticipated that the impacts on existing wetlands would be minimal. The proposed action is not expected to result in long term or cumulative effects to water quality (surface and ground water) and the existing hydrology of the existing wetland area.

2. Cumulative Affects of the No Action Alternative B (Deny the Application for the Recreation Access Plan)

A. Botany

The No Action Alternative would not change the current access to rare plant sites or wetland resources, which might indicate that the potential for damage to these sensitive areas would remain unchanged. However, human activity in the west Eugene area is increasing as a result of urban development. Pedestrian traffic to these sites is likely to increase over time, even in the absence of a bicycle trail. The lack of designated areas for vehicles and human activity could result in negative impacts to these sensitive areas and potential degradation of the remaining native wetland prairie community. Also, the ability to control noxious weeds and nonnative species within the project area may be reduced with the No Action Alternative.

B. Wildlife

An indirect effect of the No Action Alternative would be continued degradation of the remaining native wetland prairie community. Lack of designated areas for vehicle and human activity and use could result in negative impacts to sensitive areas and species.

C. Soils

There would be no expected cumulative effects to soils under this alternative as no new surface disturbing activities would be conducted. There would be no alteration of distinctive hydric infiltration characteristics beyond what has occurred previously.

D. Hydrology

The no-action alternative would have no cumulative effects to the current water quality and the existing hydrology of the area.

VI. CONSULTATION AND COORDINATION

A. List of Preparers

Melanie Marshall	Botanist
Cheshire Mayrsohn	Botanist
Rudy Weidenbeck	Soils
Daniel Crannell	T & E Wildlife Biologist
John Applegarth	Wildlife Biologist
Mike Southard	Cultural Resources
Steve Madsen	Realty Specialist
Joseph Williams	Recreation Planner
Graham Armstrong	Hydrology

B. United States Fish and Wildlife Service Consultation

Pursuant to the Endangered Species Act, formal consultation was initiated with the U.S. Fish and Wildlife Service (USFWS) regarding the proximity of Kincaid's lupine, Willamette daisy, and Fender's blue butterfly populations to the construction zone and proposed bike path at Oxbow West. A biological assessment was submitted to the USFWS. According to this Biological Assessment, the proposed Amazon/Fern Ridge Bicycle Path Extension would:

- ▶ may affect, and is likely to adversely affect the Federal Endangered Fender's blue butterfly (*Icaricia icariodes fenderi*).
- ▶ may affect, but is not likely to adversely affect the Federal Endangered Willamette daisy (*Erigeron decumbens* var. *decumbens*).
- ▶ may affect, but is not likely to adversely affect the Federal Threatened Kincaid's lupine (*Lupinus sulphureus* var. *kincaidii*) at the Oxbow West site.

The USFWS issued its Biological Opinion on June 12, 2001, concurring with the above effects, completing consultation. All required mitigation measures in this Opinion would be implemented.

C. The following State agencies and local government offices were notified and their comments requested:

Lane County Board of Commissioners
Lane County Planning Division
Department of Environmental Quality
Oregon Water Resources Department
Historic Preservation Office
Division of State Lands
Parks & Recreation Department
Department of Land Conservation
Department of Geology and Mineral Industries
Department of Forestry
Department of Fish and Wildlife

VII. REFERENCES

West Eugene Wetlands 1998, 1999 Annual Reports (Stewart, BLM Wetland Field Office, Oak Hill, Nolan Management Areas)

Beall, Jonathan, BLM, 10/2/1996. Environmental Assessment No. OR090-EA-96-31, Amazon Creek Enhancement Project - Creek Enhancement and Bicycle/Pedestrian Path.

Challenge Cost-share Monitoring Reports-prepared for the Bureau of Land Management by Tom Kaye, Institute for Applied Ecology:

1. Population Monitoring for proposed experimental habitat manipulation of Willamette Daisy Oxbow West Site, West Eugene 1999 and 2000
2. Population Monitoring for *Lupinus sulphureus* ssp. *kincaidii*: Fir Butte and Oxbow West sites, West Eugene.

Weber, Marian. 1998. West Danebo Wetland Restoration Rare, Threatened, and Endangered Plant Survey.

Marshall, Melanie. 1999. Rare, Threatened, and Endangered Plant Survey (Oxbow East, Stewart Woods, Rosy-Beaver Run, Isabelle, Willow Creek)

Interagency Conservation Strategy for Rare Native Prairie species in West Eugene, 2000.

WetlandsRecAccEEPlan, June 19, 2001

Salix Associates. 1998. Amazon Creek 1135 Project Rare Plant Surveys. 2525 Potter, Eugene, OR 97405. Submitted to the City of Eugene.

Shultz, Cheryl. 1997. Dispersal behavior and its implications for reserve design in a rare Oregon butterfly. *Conservation Biology*. 12:284-292.

Appendix C. Legal Description for the Amazon/Fern Ridge Bike Path

EASEMENT DESCRIPTIONS FOR 1135 BIKE PATH TAX MAPS 17-04-29 AND 17-04-33

A parcel of land lying in Section 29 and in the northwest one-quarter of Section 33, Township 17 South, Range 4 West of the Willamette Meridian, said parcel being a portion of those certain tracts of land described on:

Reel 2548, Instrument No. 9944039 (17-04-29 TL 2000)
Reel 2529, Instrument No. 9925710 (17-04-29 TL 1900)
Reel 455, Page 358 (17-04-29 TL 1800)
Reel 2044, Instrument No. 9513229 (17-04-29 TL 1700)
Reel 1995, Instrument No. 9467934 (17-04-29 TL 1504)
Reel 2513R, Instrument No. 9911804 (17-04-29 TL 1500)
Reel 2599, Instrument No. 9987207 (17-04-29-13 TL 101)
Reel 2164, Instrument No. 9625277 (17-04-29 TL's 603 and 604)
Reel 642, Instrument No. 7326596 (17-04-29 TL 2901)
Reel 1959, Instrument No. 9442962 (17-04-29 TL's 601 and 602)
Reel 1970, Instrument No. 9450507 (17-04-33-20 TL 600)

In Lane County, Oregon Deed Records, said parcel being a strip of land lying 20 feet left and right (permanent easement) and an additional 10 feet left and right (construction easement) of the following described City of Eugene's 1135 Bike Path Centerlines:

BIKE PATH - CENTERLINE #1

Beginning at a point South 01° 56' 29" West 2172.01 feet and South 88° 03' 31" East 103.18 feet from the Northwest corner of Section 29 at Engineers Station 0+00.00 (PT); thence North 02° 19' 31" East 1736.27 feet to Engineers Station 17+36.27 (PC); thence along the arc of a 984.25 foot radius curve to the right (the long chord of which bears North 02° 53' 27" East 19.43 feet) a distance of 19.43 feet to Engineers Station 17+55.69 (PT); thence North 03° 27' 22" East 102.42 feet to Engineers Station 18+58.11 (PC); thence along the arc of a 213.25 foot radius curve to the right (the long chord of which bears North 30° 50' 05" East 196.14 feet) a distance of 203.81 feet to Engineers Station 20+61.91 (PT); thence North 58° 12' 49" East 61.93 feet to Engineers Station 21+23.84 (PC); thence along the arc of a 32.81 foot radius curve to the right (the long chord of which bears North 77° 23' 09" East 21.55 feet) a distance of 21.95 feet to Engineers Station 21+45.79 (PT); thence South 83° 26' 32" East 38.29 feet to Engineers Station 21+84.08 (PC); thence along the arc of a 328.08 foot radius curve to the left (the long chord of which bears South 85° 15' 11" East 20.73 feet) a distance of 20.73 feet to Engineers Station 22+04.81 (PT); thence South 87° 03' 49" East 808.60

feet to Engineers Station 30+13.41 (PC); thence along the arc of a 98.43 foot radius curve to the right (the long chord of which bears South 66° 47' 48" East 68.19 feet) a distance of 69.63 feet to Engineers Station 30+83.04 (PT); thence South 46° 31' 48" East 79.61 feet to Engineers Station 31+62.65 (PC); thence along the arc of a 98.43 foot radius curve to the left (the long chord of which bears South 50° 57' 36" East 15.20 feet) a distance of 15.22 feet to Engineers Station 31+79.87 (PT); thence South 55° 23' 23" East 680.93 feet to Engineers Station 38+58.80 (PC); thence along the arc of a 98.43 foot radius curve to the left (the long chord of which bears South 74° 29' 25" East 64.41 feet) a distance of 65.62 feet to Engineers Station 39+24.42 (PT); thence North 86° 24' 33" East 192.67 feet to Engineers Station 41+17.09 (PC); thence along the arc of a 328.08 foot radius curve to the right (the long chord of which bears South 84° 47' 16" East 100.42 feet) a distance of 100.82 to Engineers Station 42+17.91 (PT); thence South 75° 59' 05" East 92.71 feet to Engineers Station 43+10.62 (PC); thence along the arc of a 131.23 foot radius curve to the right (the long chord of which bears South 50° 22' 00" East 113.48 feet) a distance of 117.36 feet to Engineers Station 44+27.98 (PT); thence South 24° 44' 56" East 324.83 feet to Engineers Station 47+52.81 (PC); thence along the arc of a 196.85 foot radius curve to the right (the long chord of which bears South 13° 28' 12" East 77.00 feet) a distance of 77.50 feet to Engineers Station 48+30.31 (PT); thence South 02° 11' 29" East 82.98 feet to Engineers Station 49+13.29 (PC); thence along the arc of a 98.43 foot radius curve to the right (the long chord of which bears South 01° 01' 55" West 11.07 feet) a distance of 11.07 feet to Engineers Station 49+24.36 (PT); thence South 04° 15' 19" West 137.74 feet to Engineers Station 50+62.10 (PC); thence along the arc of a 111.55 foot radius curve to the left (the long chord of which bears South 38° 13' 28" East 150.66 feet) a distance of 165.41 feet to Engineers Station 52+27.51 (PT); thence South 80° 42' 15" East 107.44 feet to Engineers Station 53+34.95 (PC); thence along the arc of a 98.43 foot radius curve to the right (the long chord of which bears South 53° 01' 53" East 91.42 feet) a distance of 95.07 feet to Engineers Station 54+30.02 (PT); thence South 25° 21' 32" East 88.25 feet to Engineers Station 55+18.27 (PC); thence along the arc of a 656.17 foot radius curve to the right (the long chord of which bears South 23° 12' 15" East 49.34 feet) a distance of 49.35 feet to Engineers Station 55+67.62 (PT); thence South 21° 02' 59" East 299.88 feet to Engineers Station 58+67.50 (PC); thence along the arc of a 98.43 foot radius curve to the right (the long chord of which bears South 15° 54' 44" East 17.63 feet) a distance of 17.65 feet to Engineers Station 58+85.15 (PT); thence South 10° 46' 28" East 26.07 to Engineers Station 59+11.22 (PC); thence along the arc of a 164.04 foot radius curve to the left (the long chord of which bears South 19° 23' 44" East 49.18 feet) a distance of 49.37 feet to Engineers Station 59+60.59 (PT); thence South 28° 00' 59" East 151.86 feet to Engineers Station 61+12.45 (PC); thence along the arc of a 98.43 foot radius curve to the left (the long chord of which bears South 47° 17' 38" East 64.99 feet) a distance of 66.23 feet to Engineers Station 61+78.68 (PT); thence South 66° 34' 16" East 686.78 feet to Engineers Station 68+65.46 (PC); thence along the arc of a 98.43 foot radius curve to the left (the long chord of which bears South 73° 43' 52" East 24.54 feet) a distance of 24.60 feet to Engineers Station 68+90.06 (PT); thence South 80° 53' 28" East 118.98 feet to Engineers Station

70+09.04 (PC); thence along the arc of a 65.62 foot radius curve to the right (the long chord of which bears South 39° 26' 46" East 86.86 feet) a distance of 94.92 to Engineers Station 71+03.96 (PT); thence South 01° 59' 55" West 237.42 feet to Engineers Station 73+41.38 (PC); thence along the arc of a 98.43 foot radius curve to the right (the long chord of which bears South 13° 46' 30" West 40.18 feet) a distance of 40.46 to Engineers Station 73+81.84 (PRC); thence along the arc of a 98.43 foot radius curve to the left (the long chord of which bears South 13° 46' 22" West 40.18 feet) a distance of 40.46 feet to Engineers Station 74+22.30 (PT); thence South 01° 59' 40" West 86.78 feet to Engineers Station 75+09.08 (PC); thence along the arc of a 98.43 foot radius curve to the right (the long chord of which bears South 07° 13' 56" West 17.97 feet) a distance of 18.00 feet to Engineers Station 75+27.08 (PRC); thence along a 98.43 foot radius curve to the left (the long chord of which bears South 07° 13' 56" West 17.97 feet) a distance of 17.99 feet to Engineers Station 75+45.07 (PT); thence South 01° 59' 40" West 83.33 feet to Engineers Station 76+28.40 (PC); thence along the arc of a 98.43 foot radius curve to the right (the long chord of which bears South 05° 41' 44" West 12.71 feet) a distance of 12.71 feet to Engineers Station 76+41.11 (PRC); thence along the arc of a 98.43 foot radius curve to the left (the long chord of which bears South 05° 41' 44" West 12.71 feet) a distance of 12.72 feet to Engineers Station 76+53.83 (PT); thence South 01° 59' 40" West 235.44 feet to Engineers Station 78+89.27 (PC); thence along the arc of a 98.43 foot radius curve to the left (the long chord of which bears South 04° 47' 46" East 23.28 feet) a distance of 23.33 feet to Engineers Station 79+12.60 (PT); thence South 11° 35' 11" East 29.52 feet to Engineers Station 79+42.12 (PC); thence along the arc of a 82.02 foot radius curve to the left (the long chord of which bears South 36° 57' 29" East 70.29 feet) a distance of 72.64 feet to Engineers Station 80+14.76 (PT); thence South 62° 19' 46" East 147.59 to Engineers Station 81+62.35 (PC); thence along the arc of a 98.43 foot radius curve to the right (the long chord of which bears South 47° 01' 33" East 51.95 feet) a distance of 52.58 feet to Engineers Station 82+14.93 (PT); thence South 31° 43' 21" East 26.55 feet to Engineers Station 82+41.48 (PC); thence along the arc of a 98.43 foot radius curve to the left (the long chord of which bears South 43° 42' 29" East 40.88 feet) a distance of 41.18 feet to Engineers Station 82+82.66 (PT); thence South 55° 41' 37" East 243.94 feet to Engineers Station 85+26.60 (PC); thence along the arc of a 984.25 foot radius curve to the right (the long chord of which bears South 52° 24' 18" East 112.92 feet) a distance of 112.98 to Engineers Station 86+39.58 (PT); thence South 49° 07' 00" East 121.29 feet to Engineers Station 87+60.87 (PC); thence along the arc of a 82.02 foot radius curve to the right (the long chord of which bears South 40° 25' 54" East 24.77 feet) a distance of 24.87 feet to Engineers Station 87+85.74 (PT); thence South 31° 44' 48" East 123.26 feet to Engineers Station 89+09.00 (PC); thence along the arc of a 98.43 foot radius curve to the right (the long chord of which bears South 07° 59' 30" East 79.30 feet) a distance of 81.61 feet to Engineers Station 89+90.61 (PRC); thence along the arc of a 98.43 foot radius curve to the left (the long chord of which bears South 00° 47' 55" East 56.11 feet) a distance of 56.90 feet to Engineers Station 90+47.51 (PT); thence South 17° 21' 38" East 88.93 feet to Engineers Station 91+36.44 (PC); thence along the arc of a 50.00 foot radius curve to the left (the long chord of

which bears South 26° 16' 21" East 15.49 feet) a distance of 15.55 feet to Engineers Station 91+51.99 (PRC); thence along the arc of a 50.00 foot radius curve to the right (the long chord of which bears South 12° 09' 39" West 73.55 feet) a distance of 82.63 feet to Engineers Station 92+34.62 (PT); thence South 59° 30' 23" West 120.03 feet to Engineers Station 93+54.65 (PC); thence along the arc of a 39.37 foot radius curve to the left (the long chord of which bears South 01° 26' 55" West 66.82 feet) a distance of 79.79 feet to Engineers Station 94+34.44 (PRC); thence along the arc of a 39.37 foot radius curve to the right (the long chord of which bears South 31° 03' 05" East 33.97 feet) a distance of 35.12 feet to Engineers Station 94+69.56 (PT); thence South 05° 29' 38" East 122.34 feet to Engineers Station 95+91.90 (PC); thence along the arc of a 510.14 foot radius curve to the right (the long chord of which bears South 00° 51' 22" West 112.85 feet) a distance of 113.08 feet to Engineers Station 97+04.98 (PT); thence South 07° 12' 22" West 10.52 feet to Engineers Station 97+15.50 (PC); thence along the arc of a 262.47 foot radius curve to the left (the long chord of which bears South 03° 38' 32" West 32.63 feet) a distance of 32.65 to Engineers Station 97+48.15 (PT); thence South 00° 04' 43" West 62.08 feet to Engineers Station 98+10.23 (PC); thence along the arc of a 262.47 foot radius curve to the left (the long chord of which bears South 11° 46' 54" East 107.89 feet) a distance of 108.66 feet to Engineers Station 99+18.89 (PT); thence South 23° 38' 30" East 20.37 feet to Engineers Station 99+39.26 (PC); thence along the arc of a 328.08 foot radius curve to the left (the long chord of which bears South 30° 33' 26" East 79.01 feet) a distance of 79.20 feet to Engineers Station 100+18.46 (PT); thence South 37° 28' 22" East 60.40 feet to Engineers Station 100+78.86 (PC); thence along the arc of a 262.47 foot radius curve to the left (the long chord of which bears South 42° 06' 24" East 42.41 feet) a distance of 42.45 feet to Engineers Station 101+21.31 (PT); thence South 46° 44' 25" East 50.34 feet to Engineers Station 101+71.65 (PC); thence along the arc of a 262.47 foot radius curve to the left (the long chord of which bears South 54° 34' 02" East 71.48 feet) a distance of 71.71 feet to Engineers Station 102+43.36 (PT); thence South 62° 23' 38" East 15.52 feet to Engineers Station 102+58.88 (PC); thence along the arc of a 893.47 foot radius curve to the right (the long chord of which bears South 44° 44' 14" East 542.01 feet) a distance of 550.68 feet to Engineers Station 108+09.56 (PRC); thence along the arc of a 49.21 foot radius curve to the left (the long chord of which bears South 38° 21' 17" East 19.24 feet) a distance of 19.37 feet to Engineers Station 108+28.93 (PRC); thence along the arc of a 49.21 foot radius curve to the right (the long chord of which bears South 37° 05' 11" East 21.38 feet) a distance of 21.54 feet to Engineers Station 108+50.47 (PT); thence South 24° 32' 37" East 122.40 feet to Engineers Station 109+72.87 (PC); thence along the arc of a 234.42 foot radius curve to the right (the long chord of which bears South 06° 35' 39" East 144.49 feet) a distance of 146.88 feet to Engineers Station 111+19.75 (PT); thence South 11° 21' 19" West 2.82 feet to Engineers Station 111+22.57 (PC); thence along the arc of a 315.55 foot radius curve to the left (the long chord of which bears South 04° 02' 40" East 167.60 feet) a distance of 169.63 feet to Engineers Station 112+92.20 (PT); thence South 19° 26' 39" East 12.55 feet to Engineers Station 113+04.75 (PC); thence along the arc of a 208.53 foot radius curve to the right (the long chord of which bears South 04° 14' 38" East 109.36 feet) a

distance of 110.65 feet to Engineers Station 114+15.40 (PT); thence South 10° 57' 22" West 3.93 feet to Engineers Station 114+19.33 (PC); thence along the arc of a 341.47 foot radius curve to the left (the long chord of which bears South 07° 06' 38" East 211.79 feet) a distance of 215.34 feet to Engineers Station 116+34.67 (PT); thence South 25° 10' 37" East 1.44 feet to Engineers Station 116+36.11 (PC); thence along the arc of a 234.45 foot radius curve to the right (the long chord of which bears South 17° 35' 08" East 61.94 feet) a distance of 62.13 feet to Engineers Station 116+98.24 (PT); thence South 09° 59' 38" East 280.12 feet to Engineers Station 119+78.36 (PC); thence along the arc of a 341.44 foot radius curve to the left (the long chord of which bears South 13° 57' 22" East 47.18 feet) a distance of 47.22 feet to Engineers Station 120+25.58 (PC); thence along the arc of a 39.37 foot radius curve to the right (the long chord of which bears South 07° 29' 32" East 14.25 feet) a distance of 14.33 to Engineers Station 120+39.91 (PT); thence South 02° 55' 59" West 49.39 feet to Engineers Station 120+89.30 (PT) and the end of the bike path centerline. Said point being South 01° 52' 44" West 1282.19 feet and South 88° 07' 16" East 312.83 feet from the Southeast corner of Section 29.

BIKE PATH - CENTERLINE #2

Beginning at a point South 87° 30' 24" East 257.51 feet and South 02° 29' 36" West 110.50 feet from the Northwest corner of Section 29 at Engineers Station 0+00.00 (PT); thence North 31° 47' 12" West 80.73 feet to Engineers Station 0+80.73 (PC); thence along the arc of a 32.81 foot radius curve to the right (the long chord of which bears North 14° 38' 48" West 19.34 feet) a distance of 19.63 feet to Engineers Station 1+00.36 (PT); thence North 02° 29' 36" East 25.32 feet to Engineers Station 1+25.68 (PT) and the end of the bike path centerline. Said point being on the North section line South 87° 30' 24" East 206.36 feet from the Northwest corner of Section 29.

BIKE PATH - CENTERLINE #3

Beginning at a point South 87° 30' 24" East 1971.78 feet and South 02° 29' 36" West 566.80 feet from the Northwest corner of Section 29 at Engineers Station 0+00.00 (PT); thence North 00° 40' 21" East 38.28 feet to Engineers Station 0+38.28 (PC); thence along the arc of a 328.08 foot radius curve to the left (the long chord of which bears North 01° 43' 23" West 27.43 feet) a distance of 27.43 feet to Engineers Station 0+65.71 (PT); thence North 04° 07' 07" West 189.59 feet to Engineers Station 2+55.30 (PC); thence along the arc of a 164.04 foot radius curve to the left (the long chord of which bears North 10° 05' 45" West 34.16 feet) a distance of 34.22 feet to Engineers Station 2+89.52 (PT); thence North 16° 04' 22" West 27.63 feet to Engineers Station 3+17.15 (PC); thence along the arc of a 164.04 foot radius curve to the right (the long chord of which bears North 12° 16' 05" West 21.77 feet) a distance of 21.78 feet to Engineers Station 3+38.93 (PT); thence North 08° 27' 50" West 101.88 feet to Engineers Station 4+40.81 (PC); thence along the arc of a 164.04 foot radius curve to the right (the long chord of which bears North 01° 15' 38" East 55.42 feet) a distance of

55.68 feet to Engineers Station 4+96.49 (PT); thence North 10° 59' 06" East 9.24 feet to Engineers Station 5+05.73 (PC); thence along the arc of a 98.43 foot radius curve to the left (the long chord of which bears North 06° 44' 21" East 14.57 feet) a distance of 14.58 feet to Engineers Station 5+20.31 (PT); thence North 02° 29' 36" East 53.21 feet to Engineers Station 5+73.52 (PT) and the end of the bike path centerline. Said point being on the North section line South 87° 30' 24" East 1906.79 feet from the Northwest corner of Section 29.

BIKE PATH - CENTERLINE #4

Beginning at a point South 01° 55' 15" West 2351.38 feet and North 88° 04' 45" West 1309.81 feet from the Northeast corner of Section 29 at Engineers Station 0+00.00 (PT); thence North 56° 15' 42" East 34.61 feet to Engineers Station 0+34.61 (PC); thence along the arc of a 65.62 foot radius curve to the right (the long chord of which bears North 74° 05' 49" East 40.19 feet) a distance of 40.86 feet to Engineers Station 0+75.47 (PT); thence South 88° 04' 05" East 1086.48 feet to Engineers Station 11+61.95 (PC); thence along the arc of a 98.43 foot radius curve to the right (the long chord of which bears South 82° 44' 26" East 18.28 feet) a distance of 18.30 feet to Engineers Station 11+80.25 (PRC); thence along the arc of a 98.43 foot radius curve to the left (the long chord of which bears South 82° 44' 46" East 18.30 feet) a distance of 18.32 feet to Engineers Station 11+98.57 (PT); thence South 88° 04' 45" East 120.53 feet to Engineers Station 13+19.10 (PT) and the end of the bike path centerline. Said point being on the East section line South 01° 55' 15" West 2322.51 feet from the Northeast corner of Section 29.

Said centerlines cross the following properties:

CENTERLINE #1

At Engineers Station 2+04.0 easterly 74.6 feet from the southwest corner of 17-04-29 TL 1900. At Engineers Station 28+40.8 southeasterly 94.8 feet from the northwest corner of 17-04-29 TL 1800. At Engineers Station 31+49.9 southeasterly 177.1 feet from the northwest corner of 17-04-29 TL 1700. At Engineers Station 39+95.0 southerly 240.4 feet from the northwest corner of 17-04-29 TL 1504. At Engineers Station 41+27.7 southerly 228.5 feet from the northwest corner of 17-04-29 TL 1500. At Engineers Station 52+18.2 southerly 30.4 feet from the northwest corner of 17-04-29-13 TL 101. At Engineers Station 70+35.3 southerly 53.2 feet from the northwest corner of 17-04-29 TL 604. At Engineers Station 72+09.1 easterly 1153.7 feet from the northwest corner of 17-04-29 TL 2901. At Engineers Station 73+13.1 northeasterly 34.6 feet from the northwest corner of 17-04-29 TL 603. At Engineers Station 95+32.1 easterly 732.8 feet from the northwest corner of 17-04-29 TL 602. At Engineers Station 107+48 easterly 20.8 feet from the northwest corner of 17-04-33-20 TL 600. At Engineers Station 120+31.7 easterly 273.1 feet from the southwest corner of 17-04-33-20 TL 600.

CENTERLINE #2

At Engineers Station 0+95.7 easterly 176.4 feet from the northwest corner of 17-04-29 TL 1900.

CENTERLINE #3

At Engineers Station 5+43.5 westerly 88.5 feet from the northeast corner of 17-04-29 TL 1700.

CENTERLINE #4

At Engineers Station 12+79.16 southerly 28.8 feet from the northeast corner of 17-04-29 TL 604.

APPENDIX D – WILDLIFE SPECIES COMMONLY FOUND IN THE EUGENE WETLANDS

REPTILES

Western pond turtle
Southern alligator lizard
Northwestern garter
snake
Common garter snake
Ringneck snake
Racer
Gopher Snake

AMPHIBIANS

Long-toed salamander
Rough-skinned newt
Pacific treefrog
Bullfrog

MAMMALS

Opossum
Coyote
Raccoon
Striped skunk
Red fox
California ground
squirrel
Townsend chipmunk
Western gray squirrel
Chickaree
Beaver
Nutria
Blacktailed deer

BIRDS

Pied-billed Grebe
American bittern
Great Blue Heron
Great Egret
Green-backed Heron
White-faced ibis
Tundra Swan
Canada Goose
Wood Duck
Green-winged Teal
Mallard
Northern Pintail
Blue-winged Teal
Cinnamon Teal
Northern Shoveler
Gadwall
American Wigeon
Eurasian Wigeon
Canvasback

Ring-necked Duck
Lesser Scaup
Bufflehead
Hooded Merganser
Common Merganser
Turkey Vulture
Osprey
Black-shouldered Kite
Bald Eagle
Northern Harrier
Sharp-shinned Hawk
Cooper's Hawk
Red-shouldered Hawk
Ferruginous Hawk
Rough-legged Hawk
American Kestrel
Merlin
Ring-necked
Pheasant
California Quail
Virginia Rail
Sora
American Coot
Semipalmated Plover
Killdeer
Black-necked Stilt
Greater Yellowlegs
Solitary Sandpiper
Spotted Sandpiper
Spotted Sandpiper
Western Sandpiper
Least Sandpiper]
Dunlin
Long-billed Dowitcher
Common Snipe
Wilson's Phalarope
Ring-billed Gull
California Gull
Glaucous-winged Gull
Common Tern
Rock Dove
Band-tailed Pigeon
Mourning Dove
Common Barn-Owl
Western Screech-Owl
Great Horned Owl
Northern Pygmy-Owl
Long-eared Owl
Short-eared Owl
Northern Saw-whet
Owl

Common Nighthawk
Black Swift
Vaux's Swift
Anna's Hummingbird
Refous Hummingbird
Belted Kingfisher
Acorn Woodpecker
Red-Breasted Sapsucker
Downy Woodpecker
Hairy Woodpecker
Northern Flicker
Pileated Woodpecker
Olive-sided Flycatcher
Western Wood Pewee
Willow Flycatcher
Pacific Slope Flycatcher
Black Phoebe
Ash-throated Flycatcher
Western Kingbird
Purple Martin
Tree Swallow
Violet-green Swallow
Northern Rough-winged
Swallow
Cliff Swallow
Barn Swallow
Steller's Jay
Scrub Jay
American Crow
Common Raven
Black-capped Chickadee
Chestnut-backed Chickadee
Bushtit
Red-breasted Nuthatch
White-breasted Nuthatch
Brown Creeper
Bewick's Wren
House Wren
Winter Wren
Marsh Wren
Golden-crowned Kinglet
Ruby-crowned Kinglet
Western Bluebird
Swainson's Thrush
Hermit Thrush
American Robin
Varied Thrush
Wrentit
American Pipit
Cedar Waxwing
Northern Shrike

European Starling